

**SAMSUNG TECHWIN**

**8 CHANNEL/  
16 CHANNEL DVR**

User Manual

SDH-P4080/SDH-P4040  
SDH-P5080/SDH-V5100/SDH-V5120



**SAMSUNG**

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# 8 Channel/ 16 Channel DVR User Manual

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- ❖ Design and specifications are subject to change without prior notice.
- ❖ The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product. Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.  
Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

## IMPORTANT SAFETY INSTRUCTIONS

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Read these operating instructions carefully before using the unit.

Follow all the safety instructions listed below.

Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding- type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. if the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



# overview



## CAUTION

RISK OF ELECTRIC SHOCK.  
DO NOT OPEN



**CAUTION** : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.



This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## WARNING

- To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.
- To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

## WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
3. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the camera, fasten it securely and firmly. The fall of camera may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.
11. Do not expose the product to the direct airflow from an air conditioner. Otherwise, it may cause moisture condensation inside the Clear Dome due to temperature difference between internal and external of the dome camera.
12. If you install this product in a low-temp area such as inside a cold store, you must seal up the wiring pipe with silicon, so that the external air can not flow inside the housing. Otherwise, external high, humid air may flow inside the housing, pooling moisture or vapor inside the product due to a difference between internal and external temperature.

## BEFORE START

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This user manual provides Information for using the DVR such as brief introduction, part names, functions, connection to other equipment, menu setup, etc.

You have to keep in mind the following notices :

- SAMSUNG retains the copyright on this manual.
- This manual cannot be copied without SAMSUNG's prior written approval.
- We are not liable for any or all losses to the product incurred by your use of non-standard product or violation of instructions mentioned in this manual.
- Prior to opening the case, please consult a qualified technician first. Whenever this is needed power must be removed from the unit.
- Before replacing HDD or connect any external storage device (USB memory, USB HDD, etc.) with this DVR, make sure that it is compatible with this DVR. Contact the dealer for the list of the compatible devices.

## Warning

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### Battery

It is essential that when changing the battery in the unit, the replacement battery must be of the same type otherwise there may be a possibility of an explosion.

The following are the specifications of the battery you are using now.

- Normal voltage : 3V
- Normal capacity : 170mAh
- Continuous standard load : 0.2mA
- Operating temperature : -20°C ~ +85°C  
(-4°F ~ +185°F)

#### CALIFORNIA USA ONLY

This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA. "Perchlorate Material - special handling may apply, See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)."

### Caution

- Connect the power cord into a grounded outlet.
- The Mains plug is used as a disconnect device and shall stay readily operable at any time.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like
- Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

### System Shutdown

Turning off the power while the product is in operation, or undertaking improper actions may cause damage or malfunction to the hard drive or the product.

Please turn off the power using the Power button on the front of your DVR.

After selecting <OK> in the pop-up menu, you can pull off the power cord.

You may want to install a UPS system for safe operation in order to prevent damage caused by an unexpected power stoppage. (Any questions concerning UPS, consult your UPS retailer.)

# overview

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## Operating Temperature

The guaranteed operating temperature range of this product is 0°C ~ 40°C (32°F ~ 104°F).

This product may not work properly if you run right after a long period of storage at a temperature below the guaranteed one.

Prior to using a device that has been stored for a long period in low temperatures, allow the product to stand at room temperature for a period.

Especially for the built-in HDD in the product, its guaranteed temperature range is 5°C ~ 55°C (41°F ~ 131°F). Likewise, the hard drive may not work at a temperature below the guaranteed one.

This product may not work properly if the air opening is blocked or if other unit is laid upon this product.

Please install the unit in a well-ventilated place.

## Ethernet Port

DVR is designed for indoor use only and all the communication wirings are limited to inside of the building.

## Security Precautions

The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.

Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.

Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

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## FEATURES

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This product can compress 8-channel or 16-channel camera input into a H.264 video clip, or compress 4-channel HD-UTP input or 4/12-channel composite input, and record in HDD and replay the video at the same time. These DVRs also supports network connectivity, providing remote monitoring from a remote PC transferring video and audio data.

- Provides a convenient User Interface
- 8/16 CH Composite/UTP Input Connectors
- HD(CH1~4): Supports CIF/2CIF/4CIF/WD/HD recording
- SD(CH5~8/5~16): Supports CIF/2CIF/4CIF/WD recording
- With the network specific codec, network transfer enabled regardless of the recording conditions
- De-interlacing processor for better picture quality
- Display of HDD information and status by using HDD SMART
- HD CODEC performance: Full HD 120IPS
- SD CODEC performance: 4CIF 120IPS/360IPS
- Hard Disk overwrite function
- Mass storage hard disk backup through high-speed USB 2.0
- Simultaneous Record and Playback of 8/16-channel video data
- Various Search Modes (Time, Event, Backup, Motion Detection)
- Various Recording Modes (Manual, Event, Scheduled Recording)
- Alarm Interface
- Remote Monitoring on the Smart Viewer or the Mobile Viewer
- Tampering Detection

## Standards Approvals

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- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

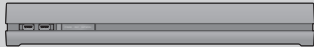
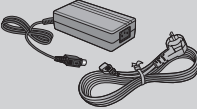

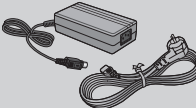
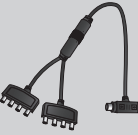

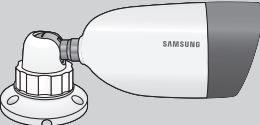

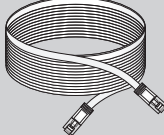
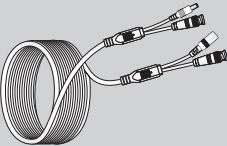
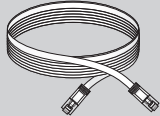
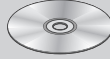
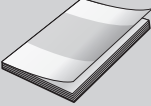
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

# overview

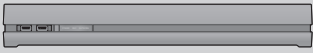
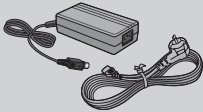
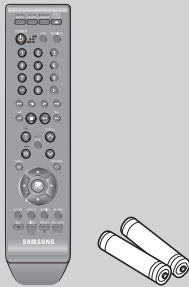
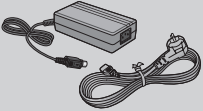
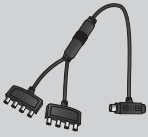

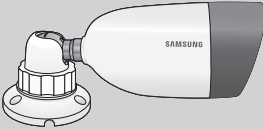
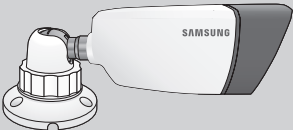
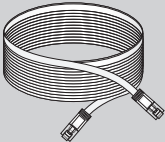
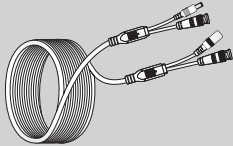
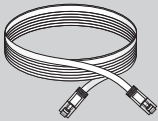
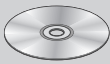
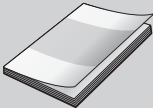
## Package Contents

Please unwrap the product, and place the product on a flat place or in the place to be installed.  
Please check the following contents are included in addition to the main unit.

### SDH-P5080

		
SDR-5200 16CH DVR	Adapter/Power Cable	Remote Control / Remote Control Battery (AAA x 2)
		
Adapter/Power Cable (For SD cameras)	Camera Gender	
		
Mouse	SDC-8340BU (UTP) 4EA	SDC-5340BC (BNC) 4EA
		
Camera Cable (SDC-8340BU) 4EA	Camera Cable (SDC-5340BC (BNC)) 4EA	Network Cable
		
CD (User Manual, Quick Guide, Router Guide)	Quick Guide/Warranty Card	

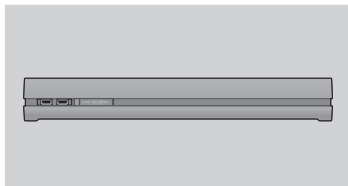
SDH-V5100

		
SDR-5200 16CH DVR	Adapter/Power Cable	Remote Control / Remote Control Battery (AAA x 2)
		
Adapter/Power Cable (For SD cameras)	Camera Gender	
		
Mouse	SDC-8340BU (UTP) 4EA	SDC-5340BC (BNC) 6EA
		
Camera Cable (SDC-8340BU) 4EA	Camera Cable (SDC-5340BC (BNC)) 6EA	Network Cable
		
CD (User Manual, Quick Guide, Router Guide)	Quick Guide/Warranty Card	

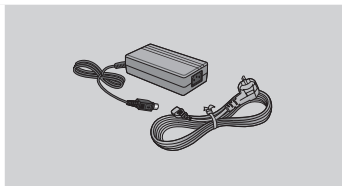
# overview

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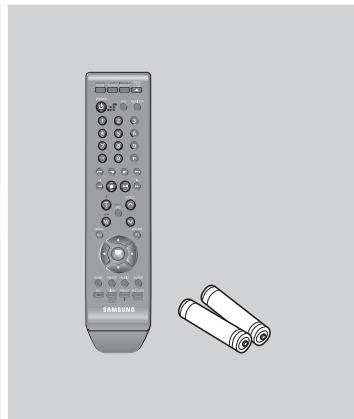
## SDH-P4040



SDR-4200 8CH DVR



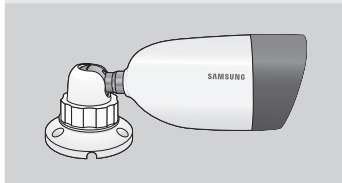
Adapter/Power Cable



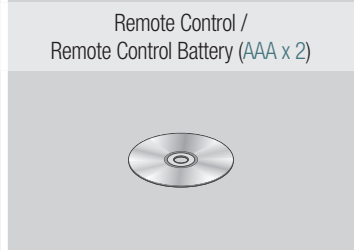
Remote Control /  
Remote Control Battery (AAA x 2)



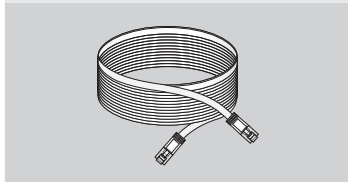
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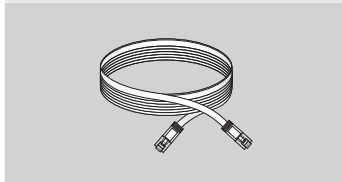
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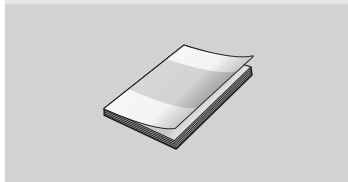
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Router Guide)



Camera Cable (SDC-8340BU) 4EA

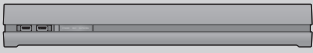
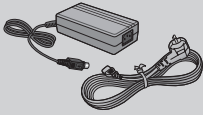
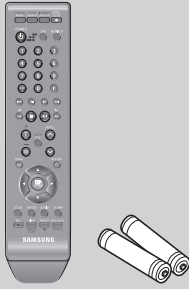
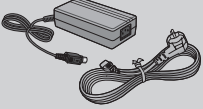
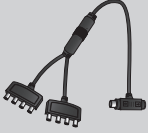

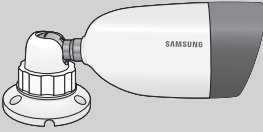
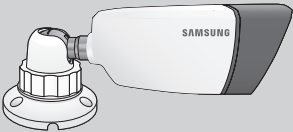
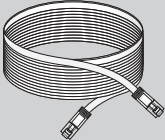
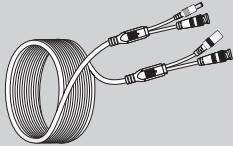
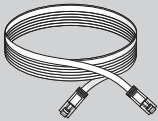
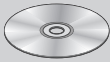
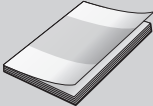


Network Cable



Quick Guide

# SDH-P4080

		
SDR-4200 8CH DVR	Adapter/Power Cable	Remote Control / Remote Control Battery (AAA x 2)
		
Adapter/Power Cable (For SD cameras)	Camera Gender	
		
Mouse	SDC-8340BU (UTP) 4EA	SDC-5340BC (BNC) 4EA
		
Camera Cable (SDC-8340BU) 4EA	Camera Cable (SDC-5340BC (BNC)) 4EA	Network Cable
		
CD (User Manual, Quick Guide, Router Guide)	Quick Guide/Warranty Card	

# overview

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## PART NAMES AND FUNCTIONS (FRONT)

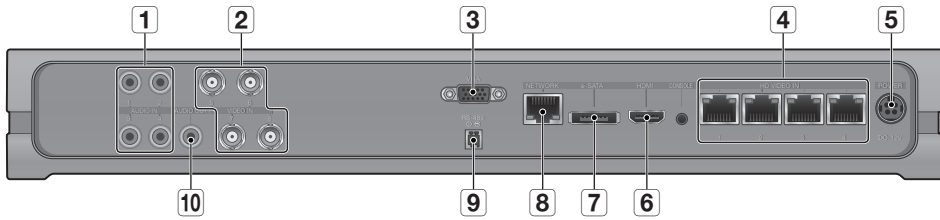
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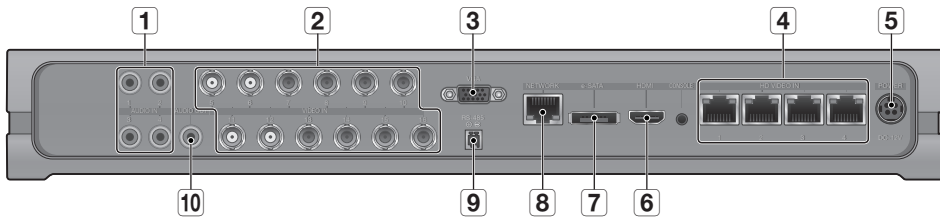
	Part Names	Functions
1	USB Port	Connects the USB devices.
2	LED Indicator	<b>POWER</b> : Displays the power ON/OFF status. <b>REC</b> : Lights on when recording is in progress. <b>NETWORK</b> : Displays both network connection and data transfer status.

# PART NAMES AND FUNCTIONS (REAR)

## SDR-4200 8CH DVR



## SDR-5200 16CH DVR

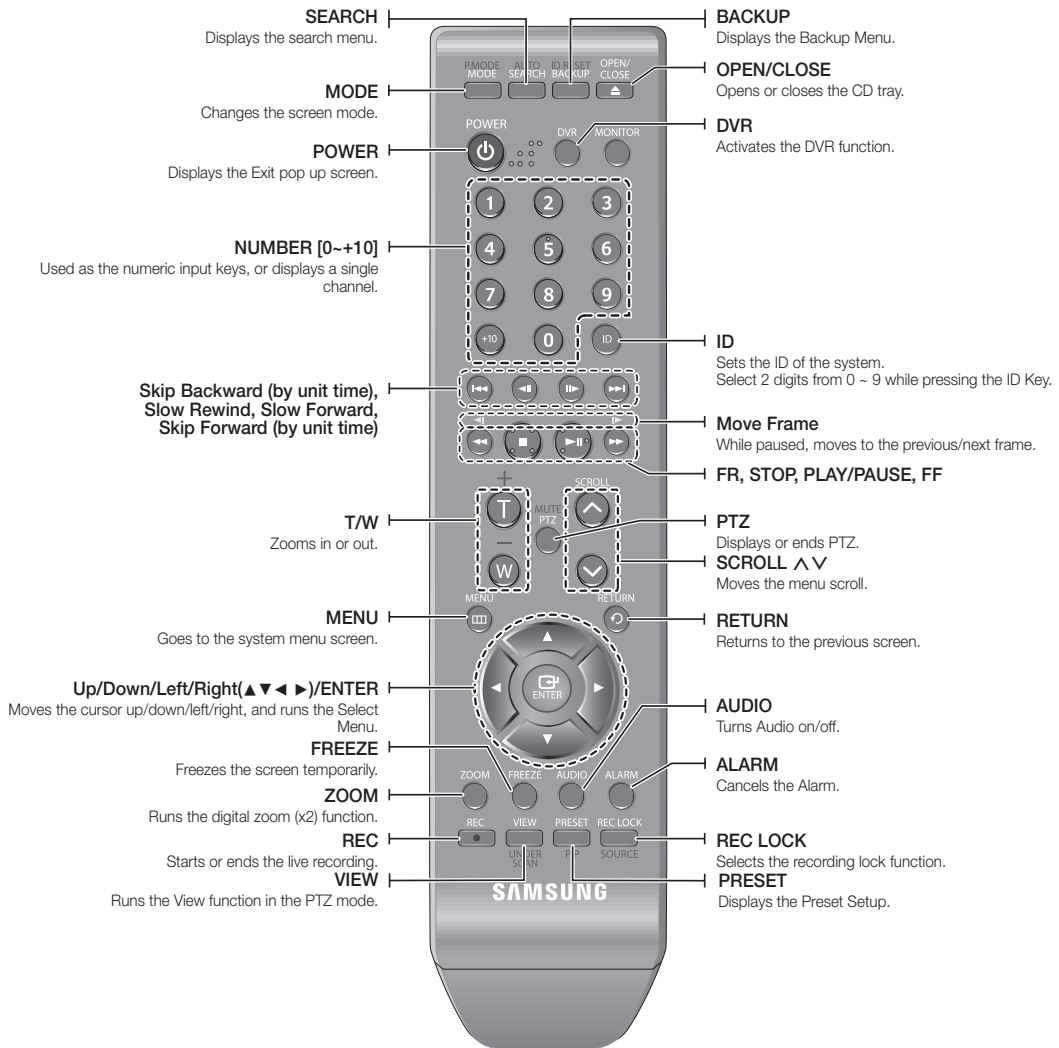


Part Names		Functions
<b>1</b>	<b>AUDIO IN</b>	Audio input signal port (RCA jack).
<b>2</b>	<b>VIDEO IN</b>	Composite Video Signal Input Port (BNC type connector).
<b>3</b>	<b>VGA</b>	VGA Video Signal Output Port.
<b>4</b>	<b>HD VIDEO IN</b>	HD video signal input port (UTP type connection). ⓘ This unit can be connected with Samsung HD UTP cameras only.
<b>5</b>	<b>POWER</b>	Camera and DVR power input port.
<b>6</b>	<b>HDMI</b>	HDMI connector port.
<b>7</b>	<b>e-SATA</b>	Ports used for external storage device connections.
<b>8</b>	<b>NETWORK</b>	NETWORK connector port.
<b>9</b>	<b>RS-485</b>	Used to control the camera which supports PTZ (Pan Tilt Zoom).
<b>10</b>	<b>AUDIO OUT</b>	Output port (RCA jack) for the audio signal.

ⓘ [CONSOLE] is designed for the service repair purpose only.

# overview

## REMOTE CONTROL






## Using the Numeric buttons

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CHANNEL 1–9	Press each button between 1 to 9.
CHANNEL 10	Press the [+10] button first, then press the 0 button again within 3 seconds.
CHANNEL 11–16	Press the [+10] button first, then press any number between 1 to 6 within 3 seconds.

## Changing the Remote Control ID

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1. Press the ID button of the remote control and check the ID displayed on the DVR screen.  
The factory default ID of the remote control is 00.
  2. Enter 2 digits of your selection in order, while pressing the [ID] button of the remote control.
  3. When ID input is done, press the [ID] button of the remote control again to check the setting.
-  ■ If you want to change the remote control ID to 08: Press 0 and 8 in order while the [ID] button of the remote control is pressed.  
Remote control's ID and DVR's ID should be matched for proper operation. Refer to "Remote Devices". (Page 63)

# connecting with other device

## INSTALLATION

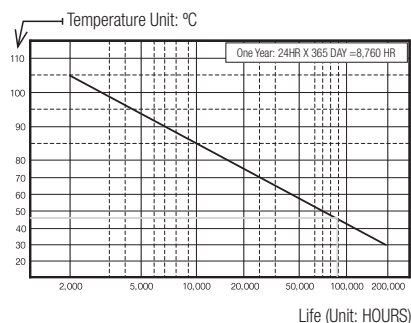
Please take note of the followings before using this product.

- Do not use the DVR outdoor.
- Do not spill water or liquid in the connection part of the product.
- Do not impose the system to excessive shock or force.
- Do not pull out the power plug forcefully.
- Do not disassemble the product on your own.
- Do not exceed the rated input/output range.
- Use a certified power cord only.
- For the product with an input ground, use a grounded power plug.

## CHECKING THE INSTALLATION ENVIRONMENT

Samsung Digital Video Recorder ("DVR" hereinafter) is a state-of-art security device, and contains mass storage hard disk(s) and critical circuits inside.

When the temperature rises inside the product, the product may breakdown and the product life be shortened. Please pay attention to the following recommendations before installation.



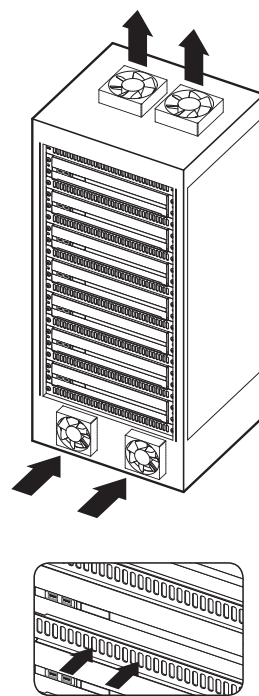
[Figure 1]

The followings are the recommendations when Samsung DVR is installed on a rack.

1. Please ensure that the rack inside is not sealed.
2. Please ensure the air is circulated through the inlet/outlet as shown in the picture.
3. If the DVR or other devices on a rack is to be stacked as in the picture, provide a suitable space or install a ventilating opening for air circulation.
4. For natural air convection, place the inlet at the bottom of the rack and the outlet on top.
5. It is strongly recommended that a fan motor is installed at the inlet and the outlet for air circulation. (Please fit a filter at the inlet to screen dust or foreign substances.)
6. Please maintain the temperature inside the rack or surrounding areas between 0°C ~ 40°C (32°F ~ 104°F) as shown in the figure 1.

Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions :

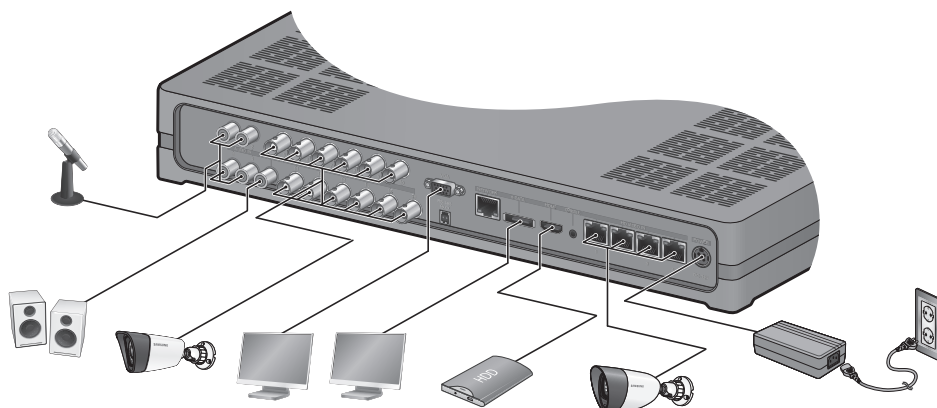
- A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature specified by the manufacturer.
- B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).



[Figure 2]

## CONNECTING EXTERNAL DEVICES

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### Connecting the USB

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1. By factory default, a USB port is provided for external connection.
2. You can connect a USB HDD, USB memory or mouse to the USB port.
3. If a USB HDD is connected to the system, recognition and settings are available in “**Main Menu > Device > Storage Device**”. (Page 61)
4. This product supports hot-plugging, which connects/removes the USB device during the system operation.



- If you use the USB device for Backup purposes, format it with FAT32 on PC if it is not formatted on the DVR.

### Connecting External SATA HDD (eSATA)

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External SATA port is provided on the rear panel.

If connected to the system, the external SATA HDD (eSATA) can be recognized and configured in “**Main Menu > Device > Storage Device**”.



- Use a cable shorter than 1 m for the external external SATA HDD (eSATA) connections.
- Unexpected disconnection to a device in use which is connected via eSATA may restart the system. Check whether the device is in use before disconnecting it.

# connecting with other device

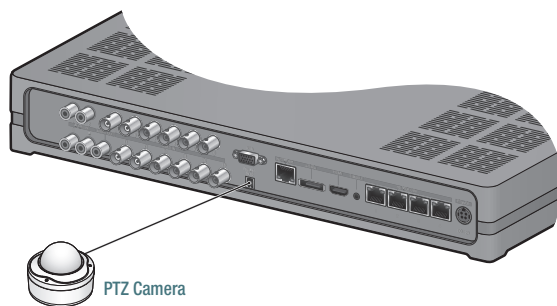
## Connecting the RS-485 Device

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Connect the PTZ camera with the **[RS-485 +/-]** port on the back of the unit.

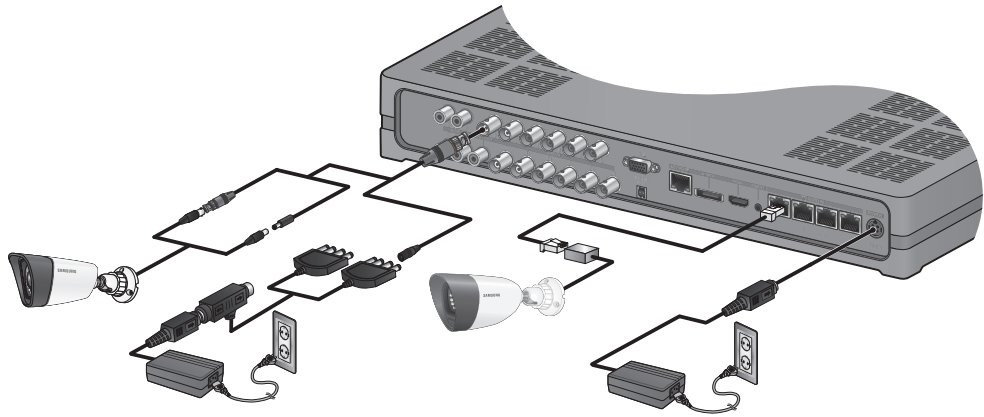


- You can connect and control the PTZ camera which supports the RS-485 communication.
- Check if the RS-485 device is compatible with the product first.
- Pay attention not to change the polarity (+/-) of the RS-485 device when connecting it.
- Depending on camera's type, connection polarity can be different.  
For further information, refer to the respective PTZ Camera's documentation.



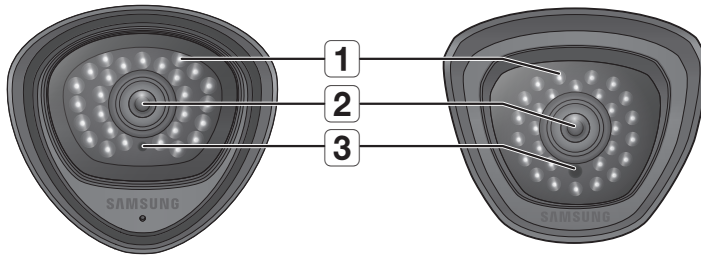
## Connecting the Camera

Equipped with the IR LED and the illumination sensor, enables you to monitor at night as well as in daytime. The camera is suitable for both internal and external use.



SDC-8340BU

SDC-5340BC

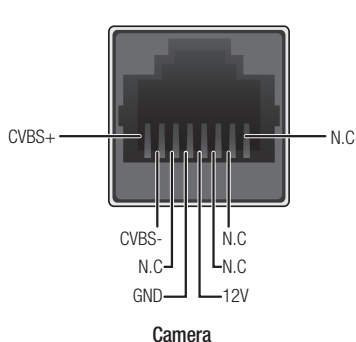


Name		Description
1	IR LED	These infrared LED's are controlled by the illumination sensor.
2	Lens	You can monitor wider range.
3	Illumination Sensor	Detects incoming light to control the IR LED.

# connecting with other device

## RJ-45 Cable (Length: 18.3m, 60ft)

This cable is specific to UTP connection, which is not compliant with the LAN cable. You can use the UTP direct cable (all of 8 pins are used) to extend the length to a max of 100m. (based on UTP CAT 5e)



Cable

	Name
1	CVBS+
2	CVBS-
3	AUDIO
4	GND
5	12V
6	N.C
7	N.C
8	N.C

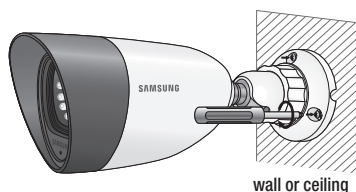
<Cable pin information provided>



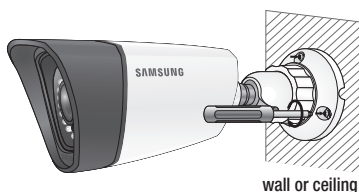
- Do not plug any other cable except normal direct cable in the camera UTP port.  
Do not plug any other cable except the one connected with the camera in the camera HD UTP port.

## Installing the camera

The camera can be installed on the wall, ceiling, shelf or a desired position using the provided bracket.



SDC-8340BU



SDC-5340BC

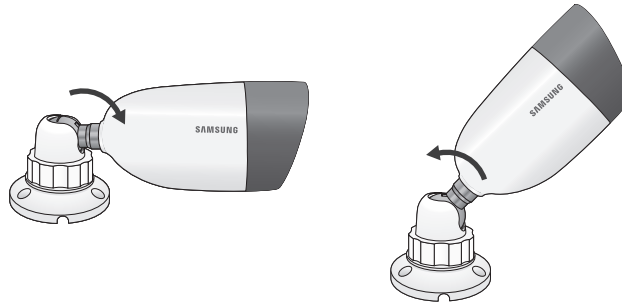
- Select a position where you want to install the camera.
  - Make sure the selected position can sustain the weight of the camera.
- Use the screw bolts to mount the camera bracket onto the wall or ceiling.



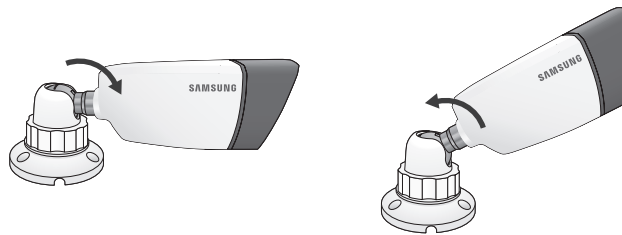
- You should be careful when installing the BOX camera outdoors because the cable connectors may be wet with moisture or pile up with impurities.

## Adjusting the Camera Bracket

1. Choose an installation site that can sufficiently support the weight of the equipments to be installed.
2. Attach the camera bracket to the wall using the supplied screws.
3. Adjust the direction of the camera to the desired direction, and fix bracket.
4. Fix the camera.



SDC-8340BU



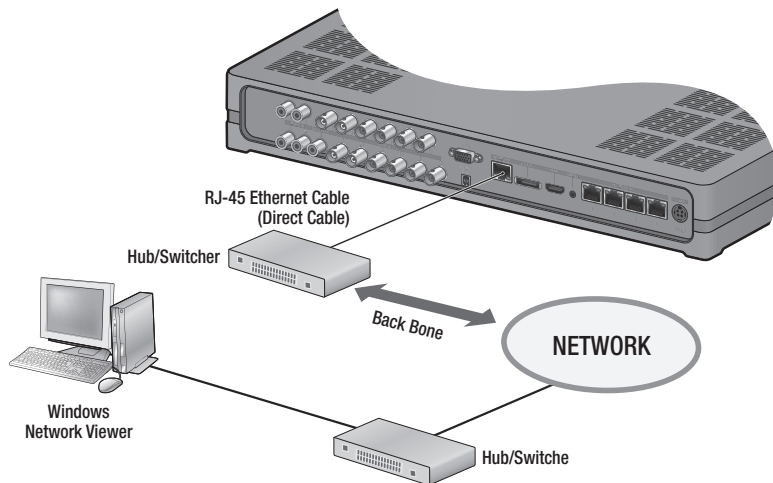
SDC-5340BC

5. Connect the camera cable to the camera.

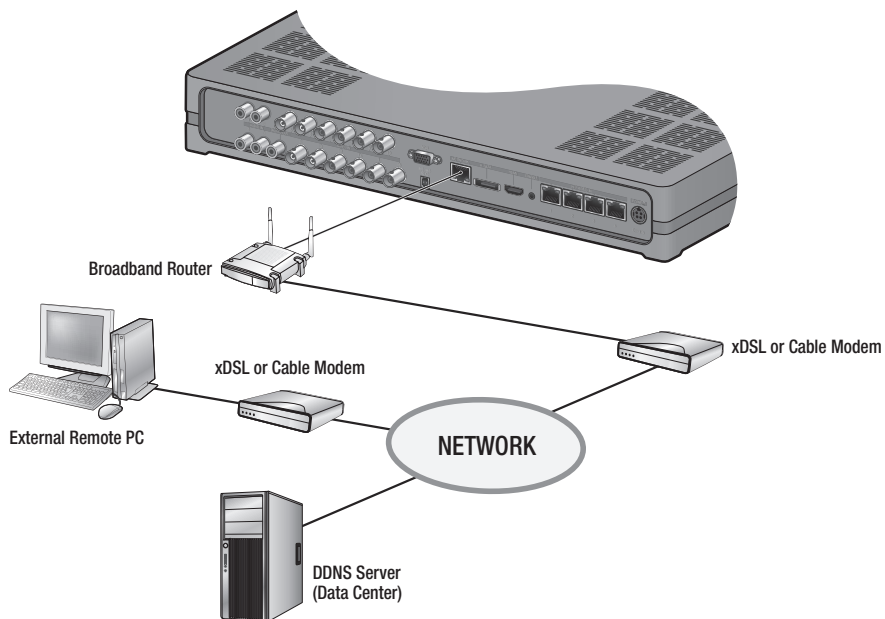
# connecting with other device

## CONNECTING THE NETWORK

### Connecting to Network through Ethernet (10/100/1000BaseT)

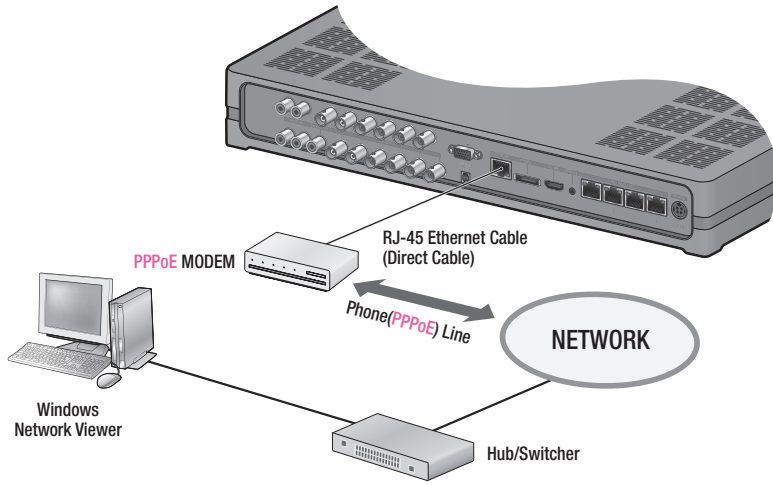


### Connecting to the Network using the router





## Connecting to Network through PPPoE



## GETTING STARTED

### Starting the system

1. Connect power cable to the product's rear.



- It takes about 10 seconds to display the start screen after booting.



2. The boot up screen appears.  
Booting up may take about 3 minute, as indicates progress with icons.  
If a new HDD is installed, the initialization process may take longer.



3. The live screen appears with a beep.



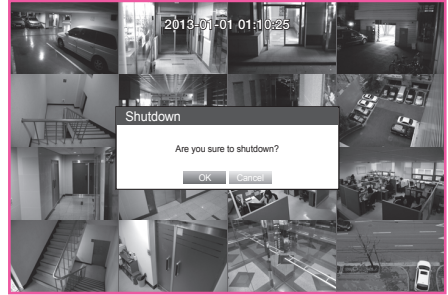
## Shutting Down the System

You can shut down the system only if you have logged in to the DVR as administrator.

1. Press the **[POWER]** button on the remote control or right-click to display the context sensitive menu and select **<Shutdown>**.
2. The **"Shutdown"** confirmation window appears.
3. Use the arrow keys on the remote control to move to **<OK>** and press the **[ENTER]** button or click **<OK>**.  
When **"Disconnect the power cable"** pops up, disconnect the power cable and shut off the unit.



- For the permission management, refer to **"Permission Management > Setting Permissions"**. (Page 45)



## Login

To access a DVR or restricted menu, you should have logged in to the DVR.

1. In live mode, right-click any area of the screen.  
You will see the context sensitive menu as in the right figure.



2. Click **<Login>**.  
The login dialog appears.  
You can also see the login dialog to access a desired menu by pressing the **[MENU]** button on the remote control.
  - The login dialog will also appear if you press a menu button on the remote control of the DVR when the corresponding menu requires logging in.
  - After logged in, press **[RETURN]** on the remote control to display the logout dialog.
  - By default, initial ID and password are set to **"admin"**, and **"4321"**.



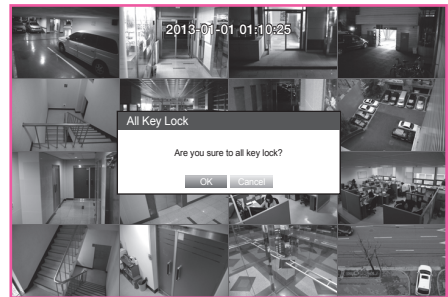
- For the restricted permission, refer to **"Permission Management > Setting Permissions"**. (Page 45)

- ! ■ The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
- Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.
- Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

## Locking All Buttons

This will restrict access to all buttons available in the DVR.

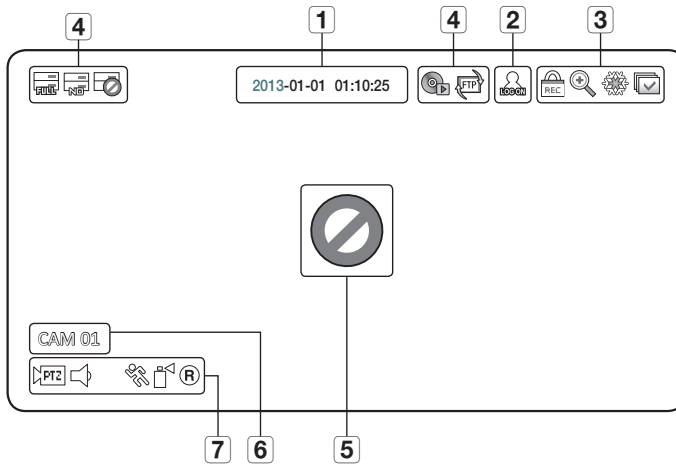
1. In Live mode, press buttons in the order of [STOP (■)]→[FREEZE]→[STOP (■)]→[FREEZE]→[MENU].  
<All Key Lock> confirmation window appears.
2. Select <OK>.  
All keys are locked.
3. In the lock condition, press any button to display a dialog where you are prompted to enter the password for unlocking the buttons.  
The button lock will be released if you enter the admin password.












# LIVE SCREEN CONFIGURATION

## Icons on the Live Screen

You can check the status or operation of the DVR with the icons on the live screen.



Part Names		Functions
<b>1</b>	<b>Current Date, Time</b>	Displays the current time and date.
<b>2</b>	<b>Login Information</b>	When you are logged in, the "LOG ON" icon will be displayed.
<b>3</b>	<b>Screen Mode</b>	 Displayed if the zoom function is activated.
		 Displayed if you press the Pause button.
		 Displayed in Auto Sequence mode where all channels are switched at the specific time interval.
		 Displayed if the recording is in process. <ul style="list-style-type: none"> <li>To cancel the recording, enter the password.</li> </ul>
<b>4</b>	<b>System Operation</b>	 Displayed if the HDD is full and the DVR has an insufficient space to record.
		 Displayed if no HDD is installed or the existing HDD should be replaced.
		 Displayed if the HDD needs a technical examination.
		 Displayed while the backup is in process or if the backup data is played.
		 Displayed if a new firmware is found from the network.

Part Names		Functions	
5	Video Input Status		Displayed if no input is entered in the condition that the camera is set to <ON>.
			Nothing will be displayed on the screen if the camera is set to <OFF>.
6	Camera Name/ Channel		Displays the camera name and the changed channel, if any.
7	Camera Operation		Displayed in PTZ setting, and highlighted yellow if PTZ is in operation.
			Displays AUDIO ON/MUTE. Not displayed in video mode if deactivated.
			Displayed if a motion detected in the condition that the motion detection is set to <ON>.
			Appears when the Tampering Detection is set to <ON> and a tampering attempt is detected.
			Displays the current record mode from Record/Event/Schedule.

## Error Information

- If the internal HDD is not connected, the "NO HDD"() message will appear; if there occurs a problem, you will see the "HDD FAIL"() message in the top left corner. In this case, make sure you contact the service center for assistance as this may cause a failure of recording, playback or backup.



- If you see the No HDD, HDD FAIL icons on the screen, contact the service center for more details.

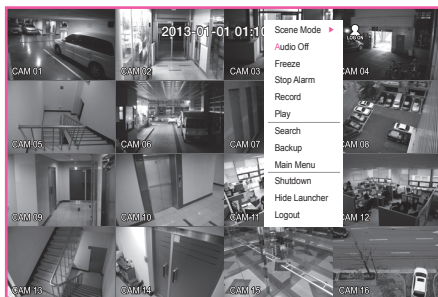
## Live Screen Menu

In addition to the buttons the remote control, you can access a desired menu by right-clicking the mouse any area in live mode.

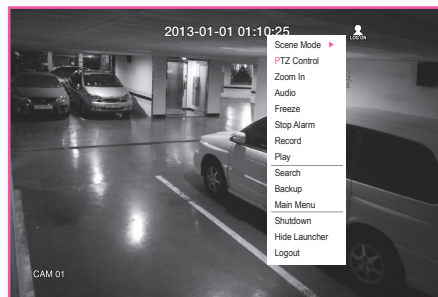
Right click opens the context menu which shows different menu items according to the situation, such as logged in/out state, split screen mode, and various operational conditions.



- Menu items of Search, Record, Backup, Shutdown and PTZ can be deactivated, depending on the user permission.



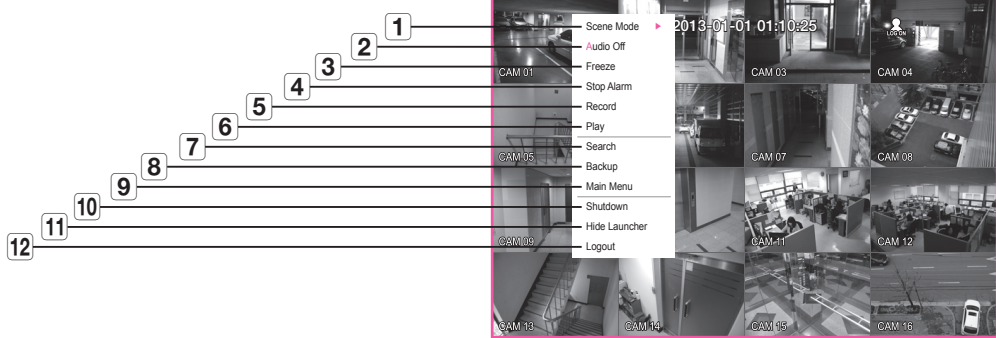
< Split Mode Menu >



< Single Mode Menu >

## Split Mode Menu

The context sensitive menu in split mode differs, depending on the login/logout status.

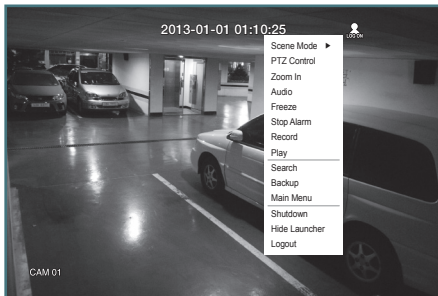


Menu	Functions
<b>1</b> Scene Mode	Refer to <b>"Live Mode"</b> . (Page 35)
<b>2</b> Audio On/Off	Refer to <b>"Audio ON/OFF"</b> . (Page 38)
<b>3</b> Freeze	Refer to <b>"Freeze"</b> . (Page 38)
<b>4</b> Stop Alarm	Stops the alarm output and the event monitoring. Refer to <b>"Event Monitoring"</b> . (Page 39)
<b>5</b> Record/Stop	Starts/stops the standard recording.
<b>6</b> Play	Plays the search result (data). Refer to <b>"Search &amp; Play &gt; Play"</b> . (Page 83)
<b>7</b> Search	Refer to <b>"Search &amp; Play &gt; Search"</b> . (Page 80)
<b>8</b> Backup	Refer to <b>"Main Menu &gt; Setting the Backup"</b> . (Page 66)
<b>9</b> Main Menu	Accesses the main menu. Refer to the Using the DVR section. (Page 40)
<b>10</b> Shutdown	Turns down the DVR.
<b>11</b> Show/Hide Launcher	Shows or hides the launcher. Refer to <b>"View the Launcher Menu"</b> . (Page 34)
<b>12</b> Login/Logout	You can log in or out.

## Single Mode Menu

The single mode menu is available only in Single Mode.

The menu, which appears as **<Screen Mode>** on a single screen, appears as **<Full Screen>** after selecting only one channel on a split screen.



< Single Mode Menu >



< Menu after selecting one channel on the split screen >

Menu		Functions
<b>1</b>	<b>Full Screen</b>	Select and click a desired channel in Split mode to switch to the full screen of the selected channel.
<b>2</b>	<b>PTZ Control</b>	Accesses the PTZ Control menu. The PTZ menu is activated only in One-Channel Live mode. (Page 77)
<b>3</b>	<b>Zoom In</b>	Enlarges the selected image. (Page 38)



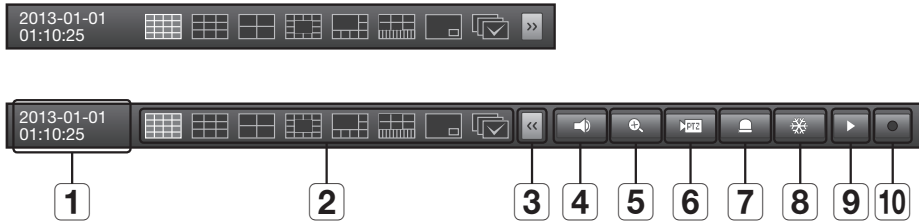
## View the Launcher Menu

The Launcher menu appears on the bottom of the live screen.

1. In Live mode, right-click to display the context menu and select <Show Launcher>.
2. Move the cursor to the bottom and click a desired item in the Launcher menu.



- If no input is entered for 10 seconds, the menu will disappear.
- The Launcher menu can be accessed only by using the mouse.
- SDH-P4080/SDH-P4040 do not support the 16-split screen mode.



Menu		Functions
1	Date/Time	Displays the current time and date. The indication of AM/PM is displayed if you set 12 hours for the time format in "System > Date/Time/Language > Time". (Page 40)
2	Screen Mode	Press this button to switch the screen mode in sequence. The current mode is highlighted in white.
3	Menu Expansion Button	Click to display the hidden menu to the right.
4	Audio	Turns ON/OFF the sound of the selected channel.
5	Zoom	Enlarges the selected area. This is available only in Single Live mode.
6	PTZ	Runs the PTZ Control launcher. The PTZ control launcher will be active on the Live screen after you select a single channel.
7	Alarm	Stops the alarm if it's activated.
8	Freeze	Freezes the Live screen temporarily.
9	Play	Enters Play mode if a file to play exist, and if not, enters Search mode.
10	Record	Start/End recording the Live screen.

## LIVE MODE

SDH-P5080/SDH-V5100/SDH-V5120 display Live images from 16 channels in a total of 8 layout of split screens.

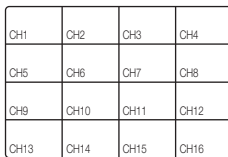
### Switching the screen mode

To switch the split mode, select a screen mode in the launcher menu, or right-click to select a screen mode in the context menu.

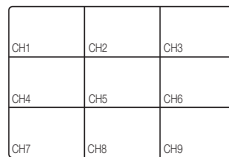
Press the **[MODE]** button on the remote control to switch the mode in the sequence of the launcher menu items.



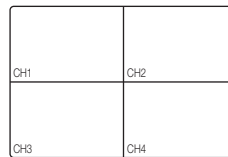
SDH-P4080/SDH-P4040 do not support the 16-split screen mode.



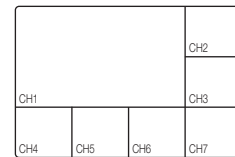
16-split mode



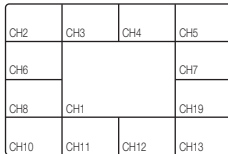
9-split mode



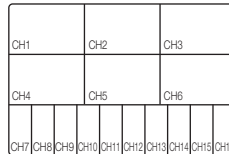
4-split mode



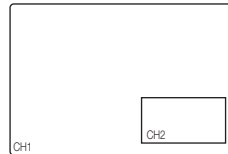
7-split mode



13-split mode



16(A)-split mode



PIP

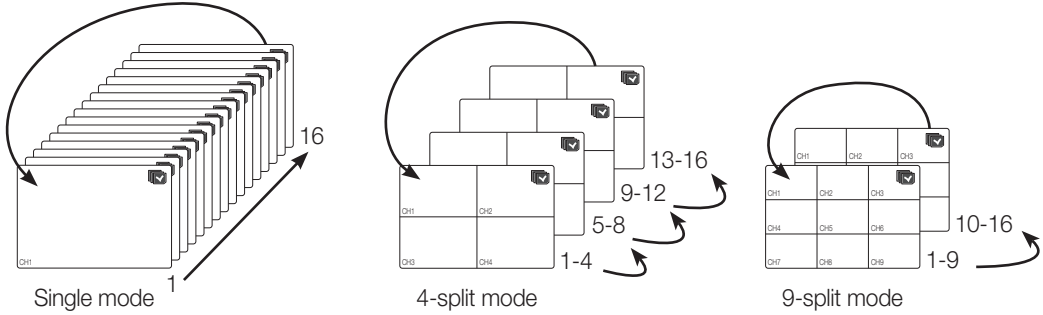


Auto Sequence

## Switching the split mode

SDH-P5080/SDH-V5100/SDH-V5120 display 16 Live images in the sequence of Single, 4-split and 9-split modes.

### Auto Sequence

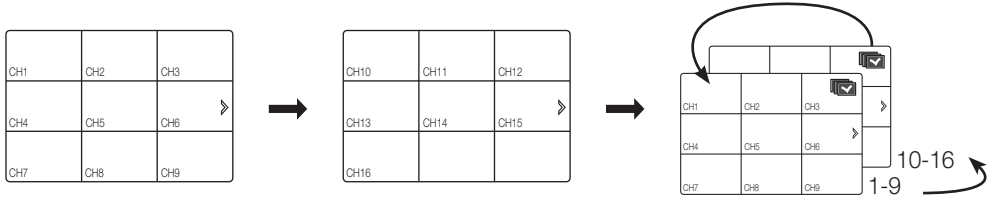


- In Single mode, If you have set <SEQ-Dwell Time> in “Setting the Device > Camera”, Auto Sequence will be conducted at the set interval. (Page 50)
- In a split mode, If you have set <Multi CH SEQ Time> in “Setting the Device > Monitor”, Auto Sequence will be conducted at the set interval. (Page 58)

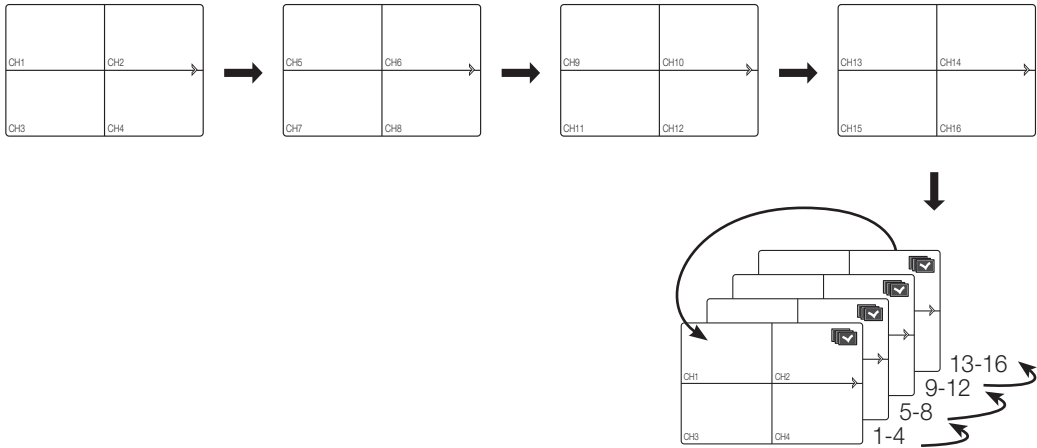
## Manual Switching

Press the left/right button on the remote control, or click the arrow <◀/▶> key to move to the next split mode.

- If pressing the right [▶] button in 9-split mode :  
9-split (CH 1~9) mode → 9-split (CH 10~16) mode → Auto Sequence



- If pressing the right [▶] button in 4-split mode :  
Channel (CH 1~4) → Channel (CH 5~8) → Channel (CH 9~12) → Channel (CH 13~16) → Auto Sequence



## Channel Setting

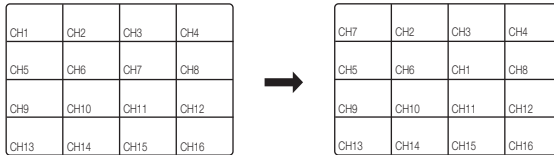
You can display the channel in a desired area of a split screen.

1. Place the cursor over the camera name of each channel to display the <▼> key to the right on the screen.
2. Click a camera name to display a channel list where you can select a different channel.
3. Select a desired channel and click it.

The current channel will be switched to the selected one.

Use the cursor to select a channel to move, and drag and drop it to a desired channel; this can also change the channel position.

- Ex : if switching CH 1 to CH 7



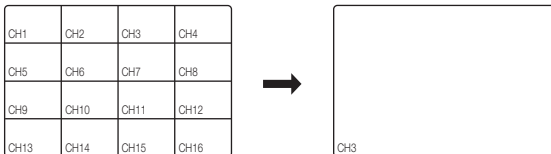
## Switching to Single Mode

When in split mode, select and double-click a desired channel to switch to its Single mode.

Press the number corresponding to a desired channel the remote control to switch to its Single mode.







Refer to “**Remote Control > Using the numeric buttons**”. (Page 15)

- Ex : if double-clicking CH 3 or pressing the number “3” on the remote control.



## ZOOM

This is available only in Single Live mode. In Single mode, select a desired area and use the Zoom function to enlarge it twice.

1. Select <Zoom In> in the right-click menu.  
Press the **[ZOOM]** button on the remote control, or simply click <  > in the launcher menu. The zoom box appears.
2. Use the direction keys, or drag and drop to specify an area to enlarge.
3. Press the **[ENTER]** button, or double-click the selected area to enlarge it twice.
  - In the enlarged image, use the direction buttons (   ) on the remote control to move the enlarged area.
4. Press the **[ZOOM]** button on the remote control, or simply click <  > in the launcher menu to release the zoom.



## AUDIO ON/OFF

You can turn the sound on/off corresponding to the channel in Live mode.

### AUDIO ON/OFF in Single mode

Click the audio icon () on the screen press the **[AUDIO]** button on the remote control to turn it on/off.



- Only the channel where <Audio> is set to <ON> in “Device > Camera” displays the audio icon () in Live mode that you can use to turn the sound on/off.

## FREEZE

This is available only in Live mode, this pauses playing the Live image temporarily.

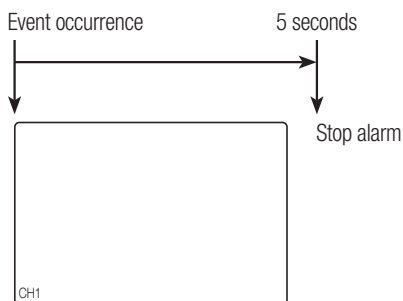
1. Press the **[FREEZE]** button the remote control, or click <  > in the launcher men.  
The playback of the image is stopped temporarily.
  - Sound continues to play during the freeze.
2. Press the **[FREEZE]** button again, or click <  >.  
This will release the freeze.

## EVENT MONITORING

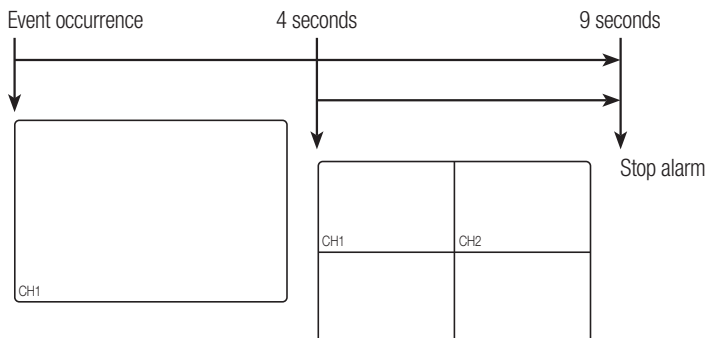
This will display the channel in sync with a specific event (Sensor/Motion/Video Loss) if it occurs.

In "**Monitor > Event Display**", set the event monitoring to ON/OFF and specify the event display time. (Page 58)

- If multiple events occur simultaneously, the screen will switch to a split mode.
  - 2~4 events : 4-split mode
  - 5~9 events : 9-split mode
  - 10~16 events : 16-split mode
- If the second event occurs within the set time of **<Event Display>**, the first event will last until the second one is terminated. (Page 58)
  - Ex : If you set **<Event Display>** to 5 seconds, and only one event occurs in CH 1.



- Ex : If you set **<Event Display>** to 5 seconds, and the second event occurs in CH 2 within the set time after the first event occurred in CH 1.



- Press the **[ALARM]** button to reset the alarm settings and to release the event mode.

- If an alarm activates in the condition you have set the event record, and pre/post alarm times, the event record will be performed.



- In case of continuous events such as motion detection, switching to another split mode display may not immediate if concatenating events follow, even when you stopped alarm of the event.

# main menu

You can setup the system properties, devices, and options for recording, event, backup and network.

## SYSTEM SETUP

You can setup Date/Time/Language, Permission, System Properties and Log.

### Date/Time/Language

You can check and setup the current Date/Time and time related properties, as well as the language used for the interface on the screen.

#### Setting the Date/Time/Language

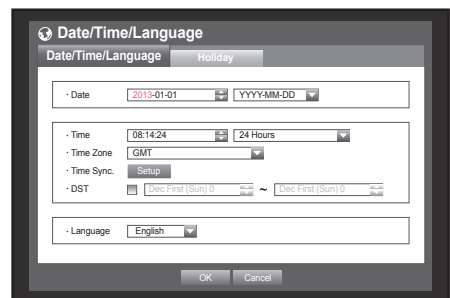
Set the Date/Time/Language

Using the mouse may help make setup easier.

1. Press the [MENU] button on the remote control.
  - If not logged in, it prompts with login window.  
Refer to "Login". (Page 28)
2. Use the left/right buttons (◀ ▶) to select the <System>. System property setup menu is selected.
3. Use the up/down buttons (▲ ▼) to select <Date/Time/Language> and press the [ENTER] button.
4. Select <Date/Time/Language>.  
A dialog to setup Date, Time and Language.
5. Use direction buttons (▲ ▼ ▶ ◀) to select an item to set and make your changes.

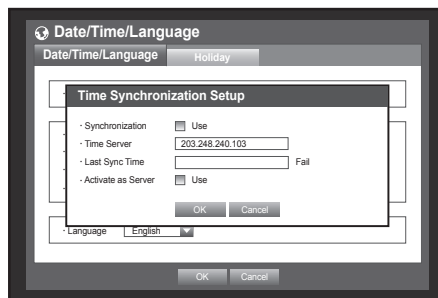


- Date : Sets the date that will appear on the screen.  
You can select the date format.
- Time : Sets the time and its format that will appear on the screen.  
Select either one from <24 Hours, 12 Hours (AM/PM)>.
- Time Zone : Sets the time zone of your area based on the Greenwich Mean Time (GMT).
  - GMT (Greenwich Mean Time) is standard World Time and the basis of world time zone.
- Time Sync. : You can set the DVR's current time synchronized to a selected <Time Server> regularly if you select to use <Time Server>. In this case, <Date/Time/Language> setup does not allow time adjustment.





- Time Server : Enter an IP or URL address of the time server.
  - Last Sync Time : Displays the most recent synchronization time from the selected time server.
  - Activate as Server : Set to <Use> to allow the DVR to act as a Time Server for other DVRs.
  - DST : Set up Daylight Saving Time with its period to make the time earlier than the GMT of its time zone by 1 hour during the set period.
  - Language : Select your language. Sets the language for the interface.  
English, French, German, Spanish, Italian, Chinese(Simplified), Russian, Korean, Polish, Japanese, Dutch, Portuguese, Turkish, Czech, Danish, Swedish, Thai, Romanian, Serbian, Croatian, Hungarian, Greek, Chinese (Traditional), Finnish and Norwegian are available.
6. When the Date/Time/Language setup is done, press <OK>.

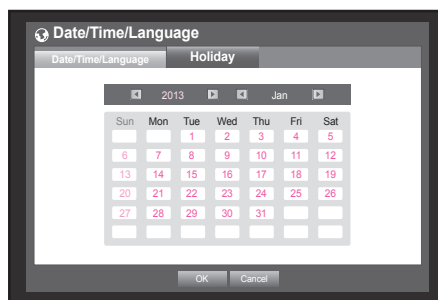


▪ You can also use numeric buttons on the remote control to enter values for Date, Time and other numeric fields.

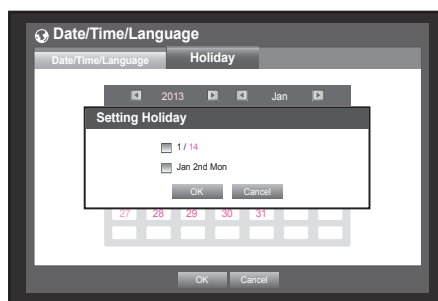
## Setting Holiday

You can set specific dates to Holidays according to your preferences. Holidays are applied to <Recording Schedule> and <Alarm Schedule> too. Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Date/Time/Language> window to select <Date/Time/Language>, and press the [ENTER] button.
2. Select <Holiday>.  
A calendar for Holiday setup appears.
3. Use the left/right <◀ ▶> buttons to select year or month, and press the [ENTER] button.



4. Use direction buttons (▲▼◀▶) to select a desired date, and press the [ENTER] button.  
You will see the "Setting Holiday" screen.
  - Ex : Select January 14th and check on <1/14> only to make every January 14th a holiday. Check both on <1/14> and <Jan 2nd Mon> to make every January 14th and 2nd Monday of January holidays.
5. When the Holiday setup is done, press <OK>.



### Using the Calendar

Using the mouse may help make setup easier.

- ① Select year and month.  
Select the left/right <◀ ▶> key on the left/right side of year/month and press [ENTER] button to adjust by 1 year/month.
- ② Use direction buttons to select a date and press [ENTER] button.
  - A date with recorded data to be searched will appear in yellow in the System Log, Event Log, Time Search and Event Search.

# main menu

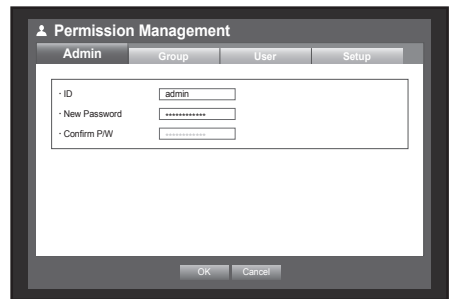
## Permission Management

You can set permissions of each user over the DVR's specific function and settings.

### Setting the Administrator

You can set and change Administrator's ID and password.  
The administrator can use and set all menu items and functions.  
Using the mouse may help make setup easier.

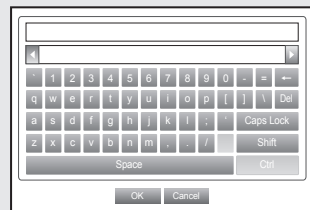
1. Use the up/down buttons (▲▼) in <System> window to move to <Permission Management>, and press [ENTER] button.
2. Select <Admin>.  
A dialog for Admin ID and Password input appears.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the ID and password.



- By default, initial ID and password are set to "admin", and "4321".
  - The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.  
Note that the security and other related issues caused by the unchanged password shall be responsible for the user.
4. When the administrator setup is done, press <OK>.

### Using Virtual Keyboard

- ① For alphanumeric inputs, the virtual keyboard window appears.
- ② Use direction buttons (▲▼◀▶) to move to a desired character, and press the [ENTER] button.
- ③ In the upper text input box of the virtual keyboard, there displays a list of candidate words containing the selected character.
- ④ Select a word from the list, or use the keyboard to enter the whole word.
  - If there are many of candidate words, use <◀, ▶> buttons to move between them forward and backward.
  - You can use mouse wheel and jog shuttle button too.
- ⑤ Select <OK>.  
Entered word is applied.
  - For upper case letters, use <Caps Lock> button.
  - For special characters, use <Shift> button.
  - Using the virtual keyboard is the same to a normal keyboard use in your region.
  - You can enter the ID with case-insensitive alphanumeric characters only.
  - For the password, use alphabets and special characters excluding <\> and <">.
  - You can use number buttons on the remote control.



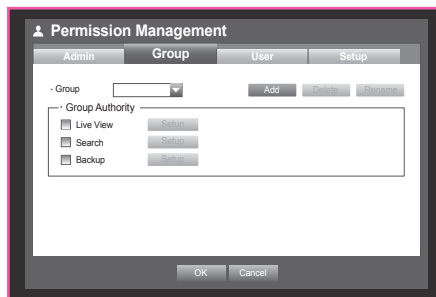
## Setting the Group

You can create user groups and setup permissions for those user groups.

You can register a user for each group in <User>.

Using the mouse may help make setup easier.

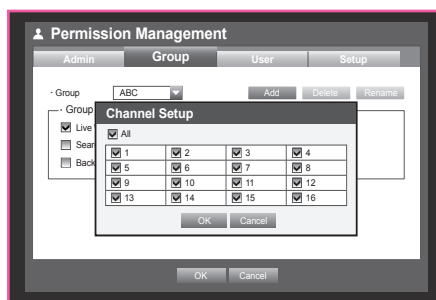
1. Use the up/down buttons (▲▼) in <System> window to move to <Permission Management>, and press [ENTER] button.
2. Select <Group>.
  - A window for <Add>, <Delete>, <Rename>, and <Group Authority> setup appears.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Add, Delete, Rename : You can add, delete, rename a group or modify the permissions given to the group. The virtual keyboard appears when <Add> or <Rename> was selected.
    - Add : When you first run the DVR with the admin account, only the admin account exists. Add has already been deactivated. Select <Add> to display the virtual keyboard. Enter a group name. You can add up to 10 groups.
    - Delete : Deletes a user group that is already registered. Selecting Delete will delete all user accounts belonging to that group.
    - Rename : Renames a group that is already registered. Select <Rename> to display the virtual keyboard.
      - For entering a group name, refer to "Using Virtual Keyboard". (Page 42)
  - Group Authority : Sets permissions to access menu items of each group. Users of a group can access checked functions.
4. When the group setup is done, press <OK>.



## To set the group authority

You can set the permissions of the group users to access the menu according to the channel.

1. Select a menu to which the group permission is assigned.
  - The menu where the group permission is assigned will be displayed in the Live menu when a group user logs in.
- Live View : You can set the permission to access the Live screen according to the channel.
- Search : You can set the permission to access the Search menu according to the channel.
- Backup : You can set the permission to access the Backup menu according to the channel.
2. Select <OK>.
  - Select and assign a group user so that the user can access the specified menu.



# main menu

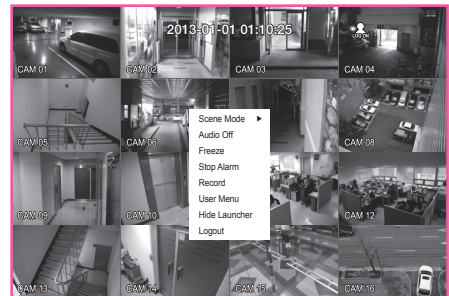
## To restrict the user permissions

If the admin restricts all permissions of an added group, the users belonging to that group can access only the default minimum menus and can change the user's own password only.

1. Start the DVR.  
If all permissions are restricted, only the Login dialog should appear.
2. Log in with a registered user ID.



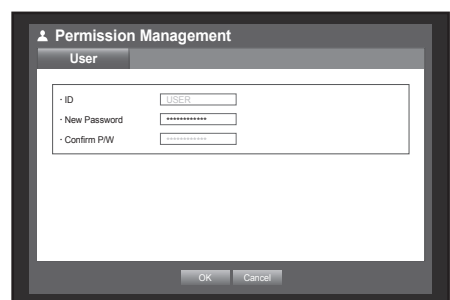
3. Right-click any area on the screen.  
If all permissions are restricted, only the accessible context menus should appear.



## To change the user password

If you log in with a user account that is restricted to access the menu, you can change your own password only.

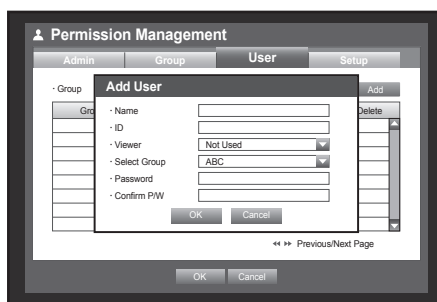
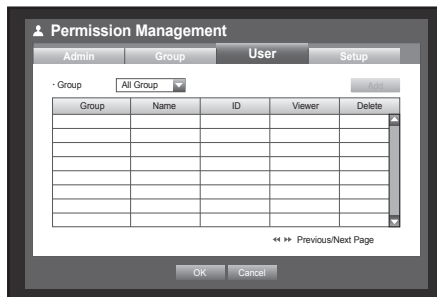
1. Log in with your account.
2. Select <User Menu>.  
The Permission Management setup screen appears.
3. Select <Permission Management>.  
The Password setup dialog appears.
4. Enter a new password.
5. Select <OK>.  
You change to the password will be applied.



## Setting the User

You can add a user and edit information of a registered user. Users can be added only if a group was created in <Group> menu. Using the mouse may help make setup easier.

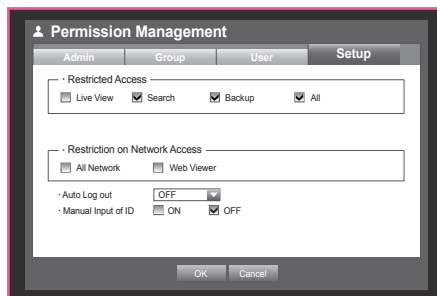
1. Use the up/down buttons (▲▼) in <System> window to move to <Permission Management>, and press [ENTER] button.
  2. Select <User>. A window for Add User appears.
  3. Use direction buttons (▲▼◀▶) to select <Add> from the window. A window for “Add User” appears.
  4. You can configure the Network Viewer settings including name, ID, viewer, Select Group and password. Result of the user setup appears in the <User> window. To change the user property, use “Edit User”. The “Edit User” window appears when you select a desired item to be changed in the <User> window.
- Viewer : If you select <Use>, you will be given access to the Web Viewer and Network Viewer.
    - Refer to “Connecting Web Viewer”. (Page 86)
    - For more information about use of Network Viewer, refer to the Network Viewer’s user guide.
5. When the user setup is done, press <OK>.



## Setting Permissions

You can set restricted access for all general users. Items with restrictions will require logging in for use. Using the mouse may help make setup easier.

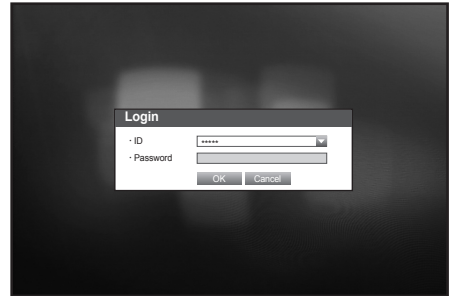
1. Use the up/down buttons (▲▼) in <System> window to move to <Permission Management>, and press [ENTER] button.
  2. Select <Setup>. The Restricted Access, Restriction on Network Access, Auto Log out, Manual Input of ID setup screen appear.
  3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
- Restricted Access : All menu items allowed for a user can be set with restricted access.
    - Checked (☑) : Restricted
    - Not checked (☐) : Accessible
    - If it is not checked (☐) in <Restricted Access>, any user can access the item no matter what the <Group Authority> setting.
    - If it is checked (☑) in <Restricted Access>, a user can access the item only if the user has permission in <Group Authority> setting.
  - Restriction on Network Access : Restricts remote access from a <Restricted Access> network.
    - All Network : Restricts all access instances via Network Viewer and Web Viewer.
    - Web Viewer : Restricts access via the Web Viewer.
  - Auto Log out : A user will be automatically logged out if there is no operation on DVR for over set period of time.



# main menu

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- Manual Input of ID : Prompts you to enter the user ID manually for the login process.
    - Checked (  ) : Encloses the registered user IDs with the [\*] symbols.
- Use the virtual keyboard to enter the user ID.
4. When the permission setup is done, press <OK>.



## System Management

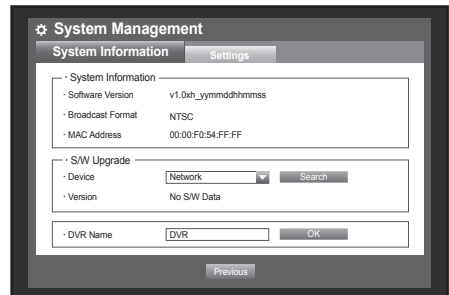
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You can check the system version, update to a newer version, as well as data backup and initialization.

### Checking the System Information

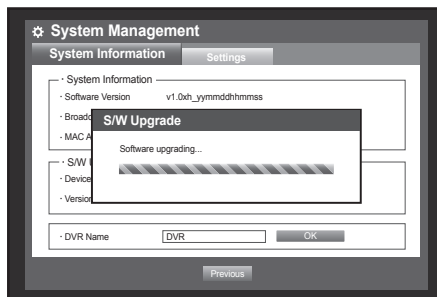
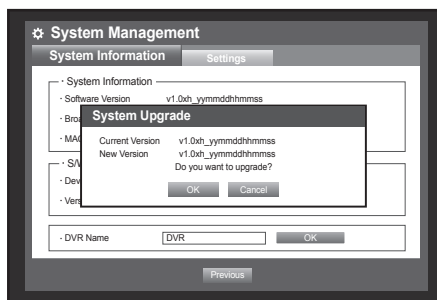
You can check the current system version, broadcasting system, MAC address. You can update the system. Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <System> window to move to <System Management>, and press [ENTER] button.
  2. Check the Software Version, Broadcast Format and MAC Address.
- System Information : Shows the current system's information.  
The values can not be changed by a user.
  - SW Upgrade : Updates the DVR's software up to date.
  - DVR Name : Assigned name will be displayed in Network Viewer, when connected to the DVR.



• **Updating the Software**

1. Connect a device storing the software to be updated. (It may take about 10 seconds to recognize the device.)
  - Upgradeable devices include USB memory and network device.
  - To update the network, the current DVR should have been connected to the network. Upgrade via the proxy server may not be enabled due to the restricted access.
2. Select **<System Management>** from **<System>** window.
3. Select **<System Information>**.
4. Press **<Search>** button to display updated image, then the **<Search>** button switches to **<Upgrade>**.
  - The **<Upgrade>** button will be activated only if the current **<Software Version>** of the **<System Information>** is same to or older than that of **<S/W Upgrade>**.
5. Press **<Upgrade>** button to display confirmation popup for upgrading.  
Press **<OK>** in the **"System Upgrade"** window.
  - While updating, it shows the progress.



6. When the updating is done, it automatically restarts. Do not turn the power off until it finishes restarting.



- If **"Upgrade Failed"** appears, retry from the step 4. When you experience continued failure, consult the service center for assistance.
- When you perform S/W update remotely using Smart Viewer, it may take a max of 3 minutes to complete the update since Smart Viewer popped up a confirmation message. This is to guarantee that the DVR set operates stably. For a faster update, use the USB cable to connect to the DVR set.

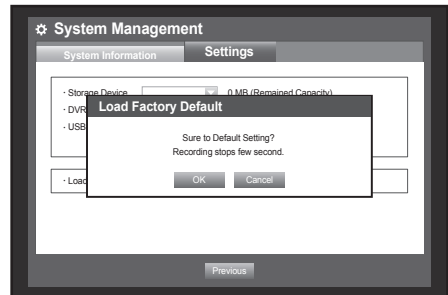
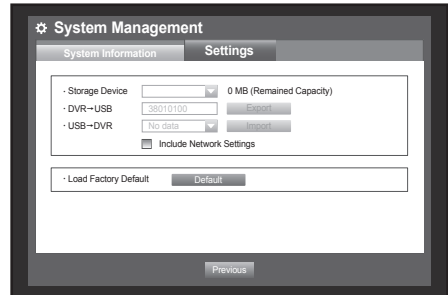


# main menu

## Settings

You can copy and import the DVR settings by using a storage media.  
Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <System> window to move to <System Management>, and press [ENTER] button.
2. Select <Settings>.  
A window of storage device and load factory default appears.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and export or import settings data to a storage device.
  - Storage Device : Shows the connected storage device.
  - Export : All logs recorded in the DVR are exported to the storage media.
  - Import : Imports DVR settings from the storage device and applies to the DVR.
    - If <Include Network Settings> is checked, the network settings will be imported too.
  - Load Factory Default : If <Default> is selected, a confirmation dialog for “Load Factory Default” prompts. Press <OK> to initialize the system to the factory default.
4. To move to the previous menu, press <Previous>.



## Log Information

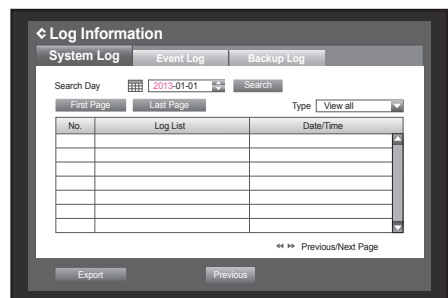
You can browse logs on the system and events.

### System Log

System Log shows log and timestamp on every system start up, system shutdown, and changes on system settings.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <System> window to move to <Log Information>, and press [ENTER] button.
2. Select <System Log>.
  - Refer to “Using the Calendar”. (Page 41)  
Click on the calendar <📅> to display the calendar window.
  - Type : When there are too many logs, you can display logs of the desired format by selecting the type.
  - Export : All logs recorded in the DVR are exported to the storage media.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and press <Search>.



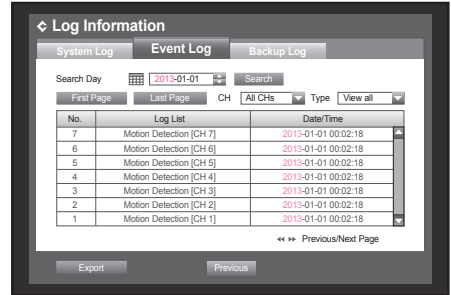


## Event Log

Event log shows recorded events on alarms, motion detections and video loss. It also shows the log and its timestamp.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <System> window to move to <Log Information>, and press [ENTER] button.
2. Select <Event Log>.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and select it.
4. Set Search Day, Channel and Type and the press <Search>.
  - Refer to "Using the Calendar". (Page 41)  
Click on the calendar <📅> to display the calendar window.

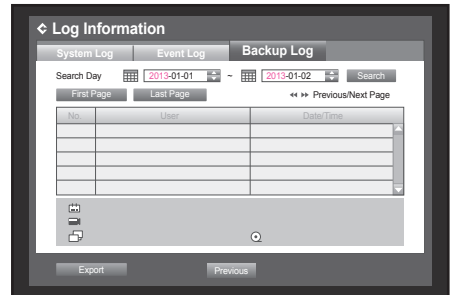


## Backup Log

You can find out who backed up and the details (backup time, channel, device to use, file format, etc.).

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <System> window to move to <Log Information>, and press [ENTER] button.
2. Select <Backup Log>.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and select it.
4. Specify a search term and select <Search> in the right corner.  
Backup details for the search term will be listed.



# main menu

## SETTING THE DEVICE

You can setup Camera, Storage Device, Remote Device and Monitor.

### Camera

#### Setting the Camera

You can set Video, Audio, Channel Name and Dwell Time of a Camera.

Using the mouse may help make setup easier.

1. Press the [MENU] button on the remote control.
2. Use the left/right button (◀ ▶) to select <Device>. Device setting menu is selected.
3. Use the up/down buttons (▲ ▼) to move to <Camera>, and press [ENTER] button.



4. Select <Camera>. Displays settings window for Video, Audio, CH Name, SEQ-Dwell Time, Screen Setup and Privacy Region.
5. Use direction buttons (▲ ▼ ◀ ▶) to move to a desired item, and set the value.

#### • Video

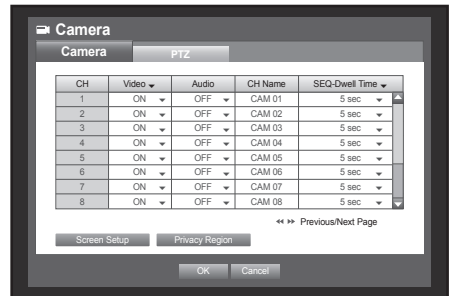
- <ON/OFF> : You can turn ON/OFF the selected channel's camera.
- <Covert1> : Shows information other than the video of the selected channel.
  - For privacy protection, it does not display the video while the recording continues.
- <Covert2> : Shows nothing but an empty screen while the recording continues.



- If the channel is set to <Covert1> or <Covert2> mode, the channel's sound is not hearable. However, the channel's sound is recorded if its Audio setting is set to <ON>, even the sound is not heard in Live mode.

#### • Audio

- If set to <ON>, you can turn the audio of the channel ON/OFF on the Live screen.
- If set to <OFF>, the channel's audio is off on the Live screen and not recorded.
  - Audio output is available for only 1 channel.



- CH Name : Up to 15 characters including blanks are allowed. (The first character should not be empty.)
    - Refer to “**Using Virtual Keyboard**”. (Page 42)
  - SEQ-Dwell Time : You can set the dwell time between channels for the Live screen and Spot Out.
    - If set to <OFF>, the channel is not listed in the Auto Sequence mode.
  - Screen Setup : The video appeared on the screen may vary depending on the channel’s camera, configure the DVR display to your preferences.  
 Select a channel and adjust the <☀: (Brightness)>, <⦿ (Contrast)>, and <🎨 (Color)> of the selected channel.
    - Press the <Init> to initialize settings back to the default 50.
  - Privacy Region : You can specify a certain area of the camera video to be protected for your privacy.
6. When the camera setup is done, press <OK>.



### To set the privacy zone

- ① Select <Privacy Region>.
- ② When “Privacy Region” window appears, select a channel for detection and set the area of motion detection.

• To set the area in “Privacy Region” window  
 In the “Privacy Region” window, select desired region from <[Color Swatches]>.

#### • Privacy Region

You can specify up to 4 privacy zones for each channel, which can be identified by the color.

1 ■ Purple 2 ■ Green 3 ■ Blue 4 □ Yellow

- To set the area using <Individual> selection

In the “Privacy Region” window, you can select cells individually by using <Individual>.

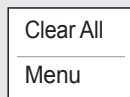
When selected <Individual>, “Privacy Region” window disappears and you can select cells one by one. When the motion area setup is done, Right-click to select <Menu> in the context menu or the [MENU] button on the remote control to display the “Privacy Region” window again.

- Clear All : Selected cell is removed from the Privacy Region.

- Menu : After selecting individual motion areas, move to the “Privacy Region” window.

- If selected <Apply to All CH>, selected motion area is applied to all channels.

- ③ When completing the privacy zone settings, click <OK>.



# main menu

## Setting the PTZ

To use Camera's PTZ functions, ID and protocols of each camera and DVR should be matched. For other settings, refer to the <Remote Devices> settings. (Page 56)

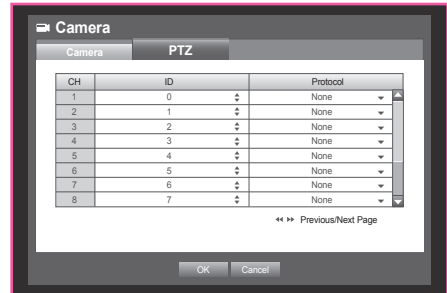
Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Device> window to move to <Camera>, and press [ENTER] button.
2. Select <PTZ>.  
A window of PTZ settings appears.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and select it.
  - ID : Set the ID of the connected camera of each channel. You can easily setup by using the numeric buttons on the remote control.
  - Protocol : Set the protocol of the connected camera of each channel.



■ You can check the camera's ID and protocol if you turn the camera off and on after connecting it to the DVR.

4. When the PTZ setup is done, press <OK>.



## Storage Device

You can check information on storage devices.

### Confirming Devices

You can check storage devices and their free space, usage as well as status.

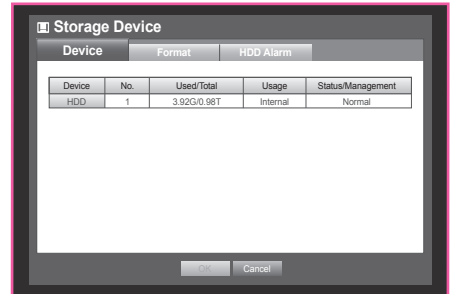
Devices available are HDD, and USB devices (Memory, HDD).

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Device> window to move to <Storage Device>, and press [ENTER] button.

2. Select <Device>.

- No. : Shows the assigned number of the internal HDD.
  - Used/Total : Shows the used/total capacity of the storage device.
  - Usage : Sets the storage device's usage.
    - USB memory is used only for backups.
      - External USB HDD, SATA HDD are used for extension and backup.
      - A maximum of 2TB for each port is supported for backup on a high capacity SATA HDD such as RAID equipment (ex: SVS-5R), and a maximum of 4TB for extension purposes.
      - SVS-5R supports only RAID1 and RAID5.
      - If an eSATA HDD device is used for extended storage or backup purposes, disconnecting eSATA device may restart the system.  
For backup use, the device can be disconnected if it's not in use.
  - Status/Management : Shows the current status of the HDD, as in Normal/Check/Replace.
    - Normal : Available to use
    - Check : Available to use but recommended to replace
    - Replace : Requires immediate replacement.
3. To move to the previous menu, press <OK>.



# main menu

---

## Formatting

You can format a storage device.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Device> window to move to <Storage Device>, and press [ENTER] button.

2. Select <Format>.

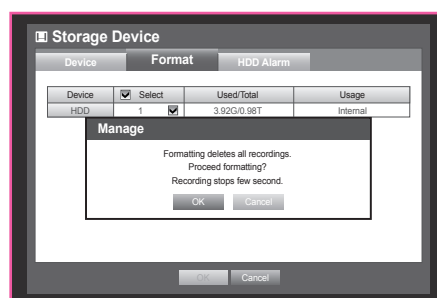
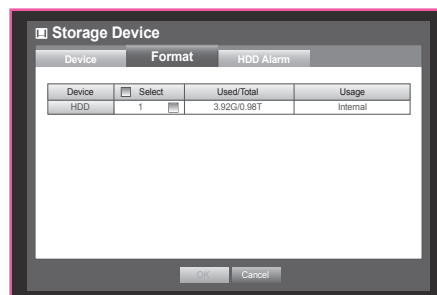
A window for selection of device for formatting appears.

3. Use direction buttons (▲▼◀▶) to select a device to be formatted.

4. Select <Format> on the bottom of the screen.

Press <OK> on the “Manage” confirmation window will start formatting the selected device.

5. When the formatting is done, press <OK>.

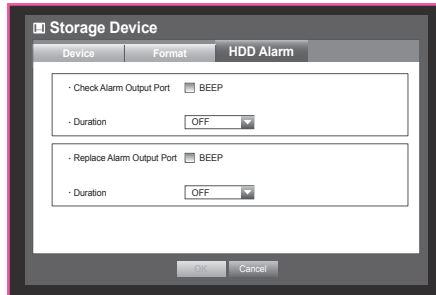





## HDD Alarm

You can set alarm settings for HDD defects such as Check Alarm Output Port, Replace Alarm Output Port, and its duration.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Device> window to move to <Storage Device>, and press [ENTER] button.
2. Select <HDD Alarm>.  
A window for setting HDD check and replace output ports and their durations appears.
3. Use direction buttons (▲▼◀▶) to move to the desired item.
  - Check Alarm Output Port : If HDD generates check alarm, the alarm signal will output to the specified alarm output port.
  - Replace Alarm Output Port : If HDD generates replace alarm, the alarm signal will output to the specified alarm output port.
  - Duration : Sets the alarm duration for the alarm signal and beep sound.
    - If <BEEP> was selected, a beep will sound.



- 
  - <Check> status means that the HDD is operating but it has problems that require technical examination. (  ) appears on the Live screen.
  - <Replace> status means that the HDD has defect and requires immediate replacement. (  ) appears on the Live screen.
  - If the installed HDD is not recognized properly, a confirmation popup will appear.

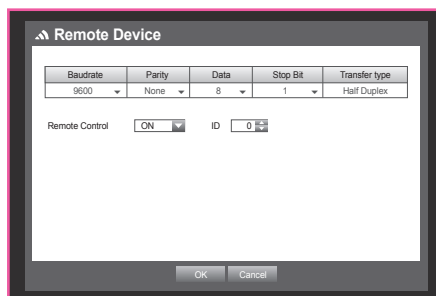
4. When the HDD Alarm setup is done, press <OK>.

## Remote Devices

You can set the RS-485 communication for use of PTZ Camera with the DVR.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Device> window to move to <Remote Device>, and press [ENTER] button.
2. Use direction buttons (▲▼◀▶) to move to the desired item, and press [ENTER] button.
3. Set the values of each communication setup of the remote device.
  - Baudrate : Baud rate settings of the DVR, PTZ camera should be matched for proper operations.
4. Make sure to match IDs of the DVR and Remote Control, and press <OK>.



- 
  - For changing the remote control's ID, refer to "Changing the Remote Control ID". (Page 15)

# main menu

## Monitor

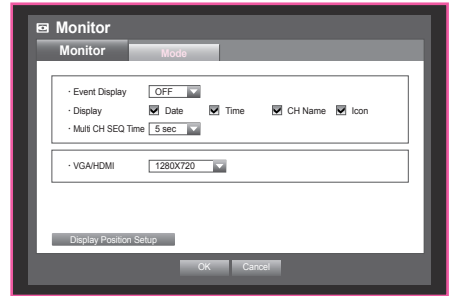
You can configure information to be displayed and its format for monitor.

### Setting the Monitor

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Device> window to move to <Monitor>, and press [ENTER] button.
2. Select <Monitor>.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.

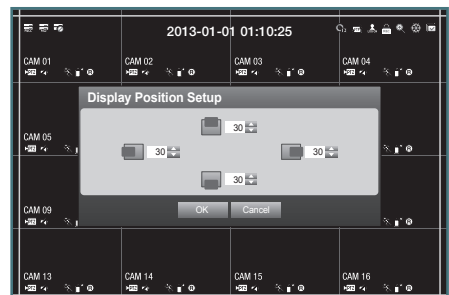
- Event Display : Sets the dwell time of the event channel display on the monitor when an event occurs. If selected <Continuous>, it displays the channel until you press [ALARM] button to release it.
  - Display : Displays only checked items on the monitor screen.
  - Multi CH SEQ Time : Sets the interval between automatic display switching in 4-split and 9-split mode of the Live screen.
  - VGA/HDMI : Set your preferred screen resolution to <VGA> or <HDMI>. If the monitor does not support selected resolution of <VGA> or <HDMI>, it may not display video properly.
    - Resolution : 1280 x 720, 1280 x 1024, 1920 x 1080
4. When the monitor setup is done, press <OK>.



### Screen Setup

Some monitors may not display information (camera name, icon, time information, etc.) about the DVR, depending on the condition. Then, you can change the display position of the data.

1. In the <Device> window, press the up/down (▲▼) button to move to <Monitor> and press the [ENTER] button.
2. Select the <Monitor> item.
3. Select <Display Position Setup> in the bottom. You will move to the <Display Position Setup> window.
4. Use the four direction buttons or the number buttons on the remote control to adjust the data position.



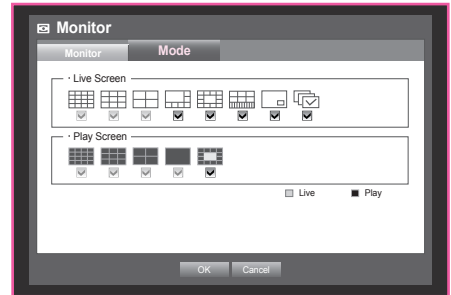


## Setting the Screen Mode

You can configure the Live screen and Split Screens.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Device> window to move to <Monitor>, and press [ENTER] button.
2. Select <Mode>.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Live Screen : Select split modes for the Live screen. 16-, 9-, and 4-split screens are included by default.
  - Play Screen : Select split modes for the playback screen. Only the 13-split screen is optional. Black shows the playback while white shows the Live screen.
4. When the screen mode setup is done, press <OK>.



# main menu

## SETTING THE RECORDING

You can setup scheduled recording, event recording and other recording related settings.

### Recording Schedule

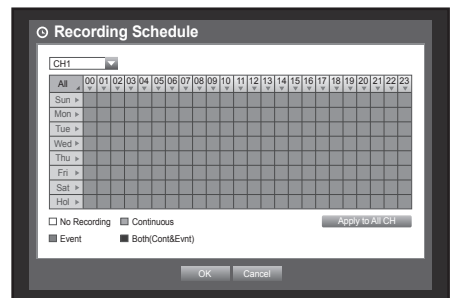
Make your reservation on a date and time to schedule the recording on specified time.

Using the mouse may help make setup easier.

1. Press the [MENU] button on the remote control.
2. Use the left/right button (◀ ▶) to select <Record>. Record menu is selected.
3. Use the up/down buttons (▲ ▼) to move to <Recording Schedule>, and press [ENTER] button.



4. Select <Recording Schedule>. A window of scheduled recording setup appears.
5. Use direction buttons (▲ ▼ ◀ ▶) to move to a desired item, and set the value.



- Apply to All CH : If selected <Apply to All CH>, "Apply to All CH" window appears. Press <OK> to apply the setup to all channels.

6. When the recording schedule setup is done, press <OK>.



- Event recording and scheduled recording starts about 3 seconds prior to the event/schedule for guaranteed recording.



## Recording Color Tags

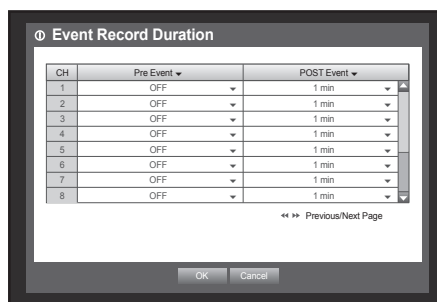
Color	Part Names	Functions
White	No Recording	No schedule / event recording
Orange	Continuous	Scheduled recording only
Blue	Event	Event recording only
Green	Both(Cont&Evt)	Both scheduled / event recordings

Each press of a selected cell will cycle through <No Recording>-<Continuous>-<Event>-<Both(Cont&Evt)>.

## Event Record Duration

You can set the beginning and ending point of a recording on an event.  
Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Record> window to move to <Event Record Duration>, and press [ENTER] button.
2. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Pre Event : The recording of an event will start at a pre-determined time prior to the actual occurrence of the event. If it is set to 5 seconds, the recording begins from 5 seconds before the event.
  - POST Event : The recording will continue for a pre-determined time after the actual end of an event. If it is set to 5 seconds, the recording ends in 5 seconds after an event.
3. When the event recording duration setup is done, press <OK>.



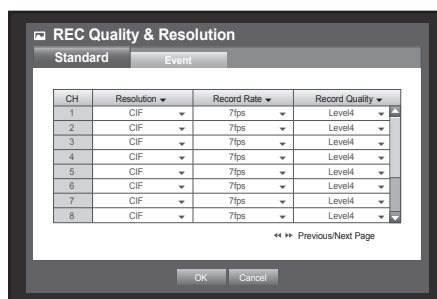
## REC Quality / Resolution

You can set resolution, FPS, and quality of recordings by channel, and by recording type of standard / event.  
For more information about the resolution, refer to the “Product Specification” section. (Page 114)

### Setting Standard Recording Properties

You can set each channel's resolution, quality and FPS for normal recordings.  
Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Record> window to move to <REC Quality & Resolution>, and press [ENTER] button.
2. Select <Standard>.
3. When the recording setup is done, press <OK>.

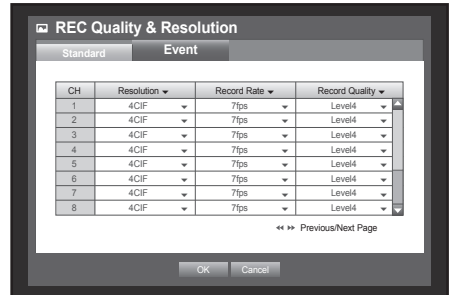


## Setting Event Recording Properties

You can set each channel's resolution, quality and FPS for event recordings.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Record> window to move to <REC Quality & Resolution>, and press [ENTER] button.
2. Select <Event>.
  - Event recording setup window appears.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and select it.
  - Resolution : Sets the resolution of the recorded screen.
  - Record Rate : Image Per Second, means the frames recorded per a second.
  - Record Quality : Sets the recording quality.
4. When the Event recording setup is done, press <OK>.

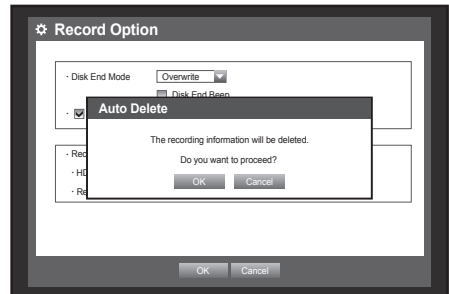


## Record Option

You can set the recording to stop or overwrite when the HDD is full.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Record> window to move to <Record Option>, and press [ENTER] button.
2. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Disk End Mode : If selected <Overwrite>, recording will continue despite the HDD full while overwriting the oldest. If selected <Stop>, the recording will stop when the HDD is full.
  - Disk End Beep : If selected <Stop>, the button is activated. If you check it, the beep will sound on the disk full and the recording stops.
  - Auto Delete : If you check it, Record Period setup is activated. If you specify the auto deletion period, the recording data before the period will be deleted automatically.
    - This option will be enabled only if Disk End Mode is set to <Overwrite>.
  - HDD Free Space : Shows remaining free space available on the HDD.
  - Recordable (days/hours) : Shows estimation of remaining days and hours for recording, based on the remaining free space.
3. When the recording option setup is done, press <OK>.



# SETTING THE EVENT

You can set recording options for motion, and video loss event.

## Motion Detection

You can set target detection region and motion, as well as the alarm signal output. When the motion detection region is set, it detects motion within the area.

Using the mouse may help make setup easier.

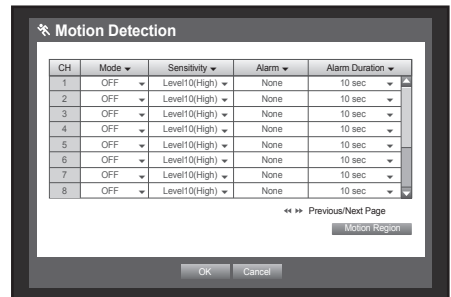
1. Press the [MENU] button on the remote control.
2. Use the left/right button (◀▶) to select <Event>. Event setting menu is selected.



3. Use the up/down buttons (▲▼) in <Event> window to move to <Motion Detection>, and press [ENTER] button. A window of motion detection area setup appears.

4. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.

- Mode : Sets whether to activate motion detection.
  - Sensitivity : Sets the sensitivity level of the motion detection.
  - Alarm : Sets the alarm output method.
    - For further information on alarm output, refer to "HDD Alarm > Alarm". (Page 55)
  - Alarm Duration : Sets the duration of alarm signal and alarm sound.
5. When the motion detection setup is done, press <OK>.



# main menu

## Setting the Motion Detection Area

- ① Select <Motion Region>.
- ② When “Motion Region” window appears, select a channel for detection and set the area of motion detection.

- To set the area in “Motion Region” window

In the “Motion Region” window, select desired region from <      >.

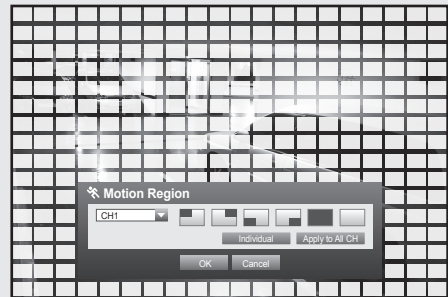
- To set the area using <Individual> selection

In the “Motion Region” window, you can select cells individually by using <Individual>.

When selected <Individual>, “Motion Region” window disappears and you can select cells one by one. When the motion area setup is done, press the <Menu> on the screen or the [MENU] button on the remote control or front panel to display the “Motion Region” window again.

- Select : Selected cell is set to be a part of motion detection area.
- Unselect : Selected cell is removed from the motion detection area.
- Inverse : Unselected cells are set to be the motion detection area.
- Menu : After selecting individual motion areas, move to the “Motion Region” window.
  - If selected <Apply to All CH>, selected motion area is applied to all channels.

- ③ When the motion detection setup is done, press <OK>.

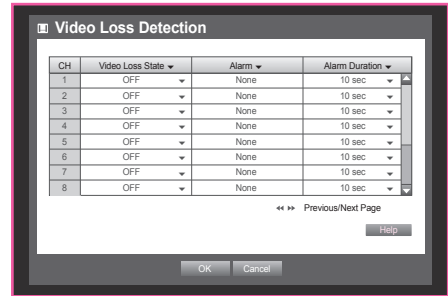


- ✓ Select
- Unselect
- Inverse
- Menu

## Video Loss Detection

You can set the alarm to be generated on a camera disconnection, which causes a video loss. Using the mouse may help make setup easier.

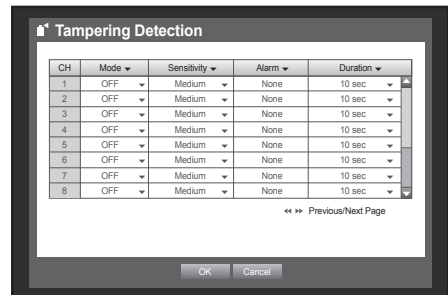
1. Use the up/down buttons (▲▼) in <Event> window to move to <Video Loss Detection>, and press [ENTER] button.  
A window of video loss detection area setup appears.
2. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Video Loss State : Sets whether to activate video loss detection.
  - Alarm : Sets the alarm output method.
    - For further information on alarm output, refer to “HDD Alarm > Alarm”. (Page 55)
  - Alarm Duration : Sets the duration of alarm signal and alarm sound.
3. When the video loss detection setup is done, press <OK>.



## Tampering Detection

You can set to detect tampering attempts and trigger events, such as sudden change of camera's framing direction, blocked lens and other overall change of scenes from the video. Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Event> window to move to <Tampering Detection>, and press [ENTER] button.  
Tampering detection settings screen appears.
2. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Mode : Set whether to use Tampering Detection or not.
  - Sensitivity : Set the sensitivity level of tampering detection.
  - Alarm : Set the alarm output method.
  - Duration : Set the alarm signal output and its dwell time.
3. When the tampering detection setup is done, press <OK>.
  - Since the tampering detection is designed and optimized to function in accordance with the user defined sensitivity level, it may not render a significant difference in detection with varied sensitivity in general monitoring situations.
  - When the tampering detection mode is set <ON>, it is recommended that the pre event recording time of the corresponding channel should be set to 5 seconds or longer.



# main menu

## Alarm Schedule

You can set the conditions and operating hours for scheduled alarms.  
Using the mouse may help make setup easier.

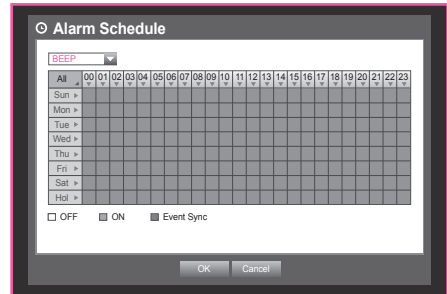
1. Use the up/down buttons (▲▼) in <Event> window to move to <Alarm Schedule>, and press [ENTER] button.
2. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.

- Alarm : Sets the alarm output method.
  - For further information on alarm output, refer to "HDD Alarm > Alarm". (Page 55)
- <ON> : Marked in orange, and always generates alarm on scheduled time.
- <OFF> : Marked in white, no alarm is generated even if an event occurs.
- Event Sync : Marked in Blue, generates alarm only when an event occurs.



- When the alarm is generated on the scheduled time, you can stop the alarm by canceling the schedule.

3. When the Alarm Schedule setup is done, press <OK>.



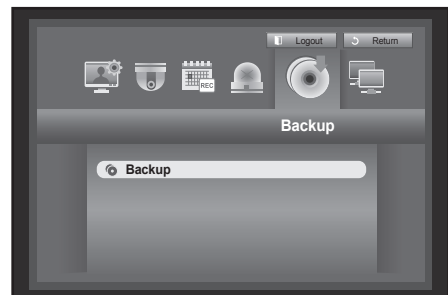
## BACKUP

You can check the backup device and set the backup schedule by channel or by time.  
The product only supports external HDD of USB memory and USB/SATA type. (Page 114)

### Setting the Backup

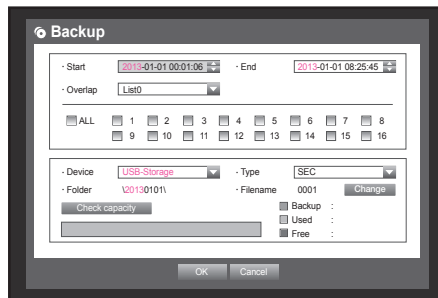
You can backup the desired data to a connected device.  
Using the mouse may help make setup easier.

1. Press the [MENU] button on the remote control.
2. Use the left/right button (◀▶) to select <Backup>. Backup menu is selected.





3. Press the [ENTER] button.  
A backup window appears.  
You can directly access it from the “Live screen menu”.  
(Page 31)



4. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Backup Range : Sets the <Start> and <End> time for the backup.
  - Channel : Sets the channel to backup.  
You can select multiple channels.
  - Device : Select a backup device from the recognized devices.
  - Type : Sets the backup data format.
    - DVR : Saved data can be played back only by the DVR.
    - SEC : Saves data in the Samsung’s proprietary format with built-in viewer, which supports immediate playback on a PC.
  - Filename : You can set the back file name.
    - Refer to “Using Virtual Keyboard”. (Page 42)
  - Check capacity : Shows the size of the selected backup data, used and available capacity of the selected backup device.
  - Overlap : Shows a list of overlapping data on a same time according to the number of data.  
It appears when one channel has multiple data on a certain time point due to changing of time or time zone settings, etc.
    - Refer to time and time zone of “Setting the Date/Time/Language”. (Page 40)

5. When the backup setup is done, press <OK>.
  - If no available device is recognized for backup, <OK> button is not activated.



- The application may slow down during the backup.
- You can switch to the menu screen during the backup in operation, but playback of data is not available.
- When a memory device is used for backup, it is not available to use the full capacity of the media since the system consumes a part of its capacity.
- If backup has failed, select “Device > Storage Device” and check the free space of the HDD and check also if the HDD is properly connected.



- Pressing the <Exit> during the backup will return to the previous menu, while the backup progresses.

# main menu

## NETWORK CONFIGURATION

It provides networked monitoring of Live screen from a remote place, and supports mail forwarding function with events. You can configure the network environment which enables such functions.

### Connection Mode

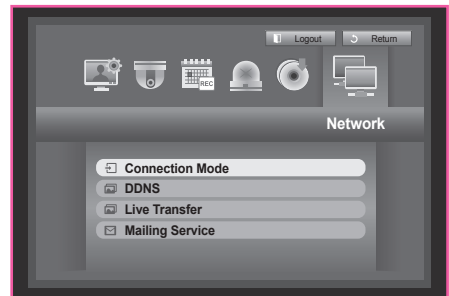
You can set the network connection route and protocol.

#### Setting the Connection

Sets the protocol and environment of the network.

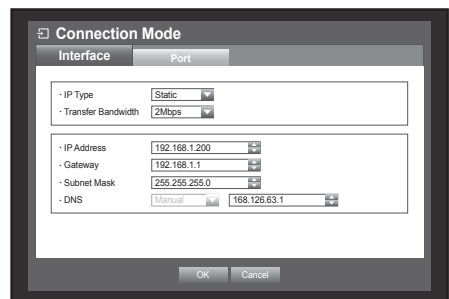
Using the mouse may help make setup easier.

1. Press the [MENU] button on the remote control.
2. Use the left/right button (◀ ▶) to select <Network>. Network menu is selected.
3. Use the up/down buttons (▲ ▼) to move to <Connection Mode>, and press [ENTER] button.



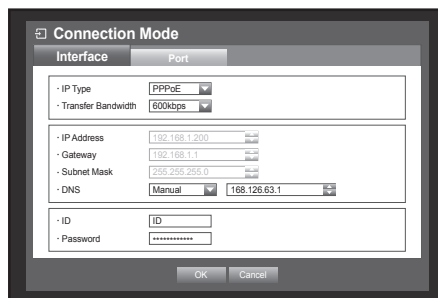
4. Select <Interface>. A window of connection mode setup appears.
5. Use direction buttons (▲ ▼ ◀ ▶) to move to a desired item, and set the value.

- IP Type : Sets the network connection mode.
- Transfer Bandwidth : Sets the maximum data flow to be transferred. (Upload speed)  
Options will vary depending on the selected connection mode.
  - For <Static>, <DHCP> : Select one from 50 kbps ~ 2Mbps, and Unlimited.
  - For <PPPoE>, select one from 50 kbps ~ 600 kbps.



- If you select <Unlimited> for <Transfer Bandwidth>, HD video is replayed more smoothly on the web viewer. Freezing may occur depending on the network condition.

- IP Address, Gateway, Subnet Mask, and DNS
  - For **<Static>** : You can directly input IP Address, Gateway, Subnet Mask and DNS.
  - For **<DHCP>** : IP Address, Gateway, and Subnet Mask are set automatically.
  - For **<PPPoE>** : IP Address, Gateway, and Subnet Mask are set automatically.
- ID, Password : In case you selected PPPoE, provide the "ID" and its "Password".

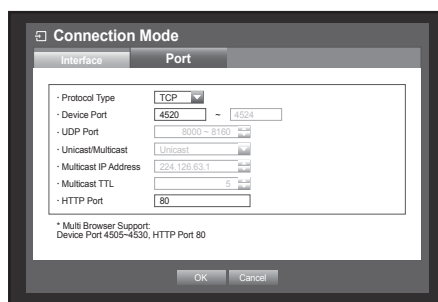


- ✍️ ▪ DNS server for **<DHCP>** and **<PPPoE>** can be set by user only if you selected **<Manual>**.

6. When the connection setup is done, press **<OK>**.

## Setting the Port

1. Use the up/down buttons (▲▼) in **<Network>** window to move to **<Connection Mode>**, and press [ENTER] button.
2. Select **<Port>**.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Protocol Type : Select the protocol type between TCP and UDP.
    - TCP : If compared to UDP, TCP connection is more stable but slow. Recommended for Internet connection.
    - UDP : If compared to TCP, UDP connection is less stable but fast. Recommended for use in LAN environment.
      - If selected UDP, selections of Device Port, UDP Port and Unicast/Multicast are activated.
      - If setting the connection mode to PPPoE, you cannot select UDP for the protocol type.
  - Device Port : Initially, **<4520~4524>** is set. It increases / decreases by 5.
    - TCP: It has better stability and lower speed when compared to UDP, and recommended for internet environments.
  - UDP Port : Initially, **<8000~8160>** is set. It increases / decreases by 160.
  - Unicast/Multicast : Select one between UDP-Unicast and UDP-Multicast. If selected Multicast, Multicast IP and TTL are activated.
    - UDP- Unicast : Transfers data packet to an individual client.
    - UDP-Multicast : Allows data communication to multiple clients causing no additional traffic to the network.
  - Multicast IP Address : User can directly input.
  - Multicast TTL : Select from 0 ~ 255. Initial value for the TTL is set to **<5>**.
  - HTTP Port : Enter the port number for the Web Viewer. Initially, it is set to **<80>**.
  - Multi Browser Support : The Web Viewer can be used with a browser that supports the Silverlight. The multi viewer can be used only if the HTTP port is set to 80, protocol type is TPC and device ports range within 4505-4530. This is for the Silverlight's security purposes.
4. When the protocol setup is done, press **<OK>**.



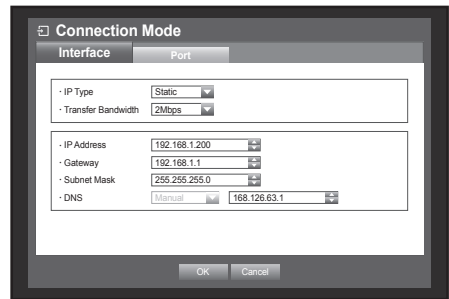
## Connecting and Setting the Network

Networking may differ from the connection method, check your environment before setting the connection mode.

### When no router is used

#### • Static mode

- Internet connection : Static PPPoE, leased line, and LAN environments allows connection between the DVR and remote user.
- DVR Network Settings : Set the <Connection Mode> in <Interface> menu of the connected DVR to <Static>.
  - Consult your network manager for IP Address, Gateway and Subnet Mask.

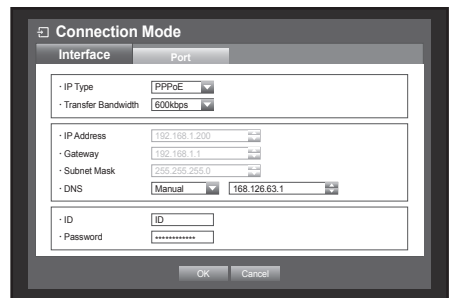


#### • DHCP mode

- Internet connection : Connect the DVR directly to a cable modem, DHCP PPPoE modem or FTTH network.
- DVR Network Settings : Set the <Connection Mode> in <Interface> menu of the connected DVR to <DHCP>.

#### • PPPoE mode

- Internet connection : An PPPoE modem is directly connected to the DVR, where the PPPoE connection requires user ID and password.
- DVR Network Settings : Set the <Connection Mode> in <Interface> menu of the connected DVR to <PPPoE>.
  - <ID> and <Password> should be the same to the PPPoE user information.  
If you don't know the ID and password, consult your PPPoE service provider.



## When a router is used



- To avoid IP address conflict with the DVR's static IP, check followings :

### • Setting the DVR with a static IP

- Internet connection : You can connect the DVR to a router which is connected to an ADSL/Cable modem or a router in a Local Area Network (LAN) environment.

### • Setting the DVR Network

1. Set the <Connection Mode> in <Interface> menu of the connected DVR to <Static>.

2. Check whether the set IP address is in the static IP range provided by the Broadband Router.

IP Address, Gateway, and Subnet Mask : Consult your network manager.

- Check whether the set IP address is in the static IP range provided by the Broadband Router.



- If a DHCP server is configured with starting address (192.168.0.100) and end address (192.168.0.200), you should set the IP address out of the configured DHCP range (192.168.0.2 ~ 192.168.0.99 and 192.168.0.201 ~ 192.168.0.254).

3. Check the Gateway address and subnet mask are equal to those set in the Broadband Router.

### • Setting the DHCP IP Address of the Broadband Router

1. To access the Broadband Router's configurations, open a web browser on the local PC that is connected to the Broadband Router and enter the router's address (ex : http://192.168.1.1).

2. At this stage, make the local PC's windows network configurations to the below example :

Ex) IP Address : 192.168.1.2

Subnet Mask : 255.255.255.0

Gateway : 192.168.1.1

- Once connected to the Broadband Router, it prompts with password. While entering nothing to the User Name field, enter "admin" into the password field and press <OK> to access the router configurations.
- Access the router's DHCP configuration menu and set its DHCP server activation, and provide the start and end address.  
Set the start address (192.168.0.100) and end address (192.168.0.200).

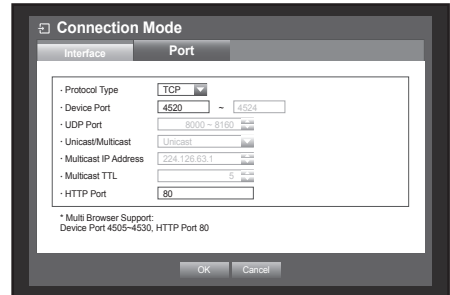


- Above steps may differ from the router devices depending on the manufacturer.

# main menu

## • Setting Router's Port Forwarding

1. Set the protocol to <TCP>.
2. External Port Range : Enter the TCP Port set in the <Device Port> in <Port> menu of the connected DVR. If more than one DVRs are connected to the router, the TCP port can be different.
3. Internal PC IP Address : Enter the IP address set to the <IP Address> in <Interface> menu of the connected DVR.
4. Internal Port Range : Set the same to the "External Port Range".



- Above steps may differ from the router devices depending on the manufacturer. Port forwarding is required when you want to access the DVR connected to the router from outside of the router's network.

## DDNS

You can set the DDNS site for a remote user's network connection.

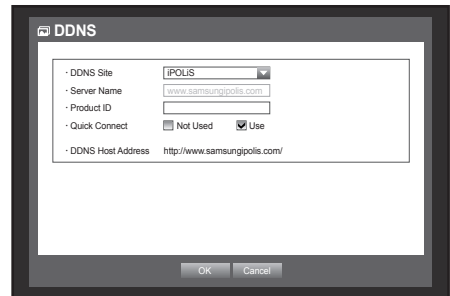
Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Network> window to move to <DDNS>, and press [ENTER] button. DDNS Setup screen appears.

2. Use the virtual keyboard to enter the <Product ID>.

- Refer to "Using Virtual Keyboard". (Page 42)
- If selected <OFF> input fields are deactivated.
- If selected <iPOLiS>, the server name field is disabled.

- DDNS Site : Set whether to use DDNS or not, and select the DDNS site if enabled.
- Server Name : Enter the server name of the selected DDNS site.
- Product ID : Enter the product ID which was registered to the DDNS site.
- Quick Connect : Appears if the <DDNS Site> is set to <iPOLiS>. To use this feature, connect the DVR to a UPnP router and set to <Use>.



- If the quick connect setup has been cancelled while progressing, it is automatically set to <Not Used>.

3. When the DDNS setup is done, press <OK>.

## DDNS Setting

DDNS is a short form of Dynamic Domain Naming System.

DNS (Domain Name System) is a service that routes a domain name consisting of user friendly characters (ex : www.google.com) to an IP address consisting of numbers (64.233.189.104).

DDNS (Dynamic DNS) is a service that registers a domain name and the floating IP address with the DDNS server so that the domain name can be routed to the IP address even if the IP is changed in a dynamic IP system.

- **Setting DDNS in the DVR**

Set <Protocol Type> in the <Port> menu of the connected DVR to the following :

Ex) Protocol Type : TCP  
 Device Port : 4520~4524  
 DDNS Site : iPOLIS

- **DDNS Settings of the Router**

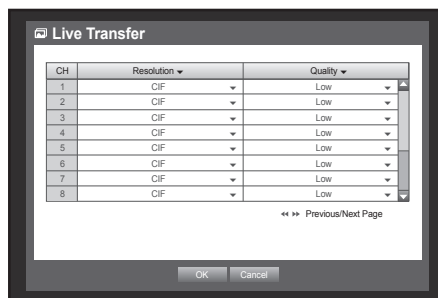
Select the corresponding menu for the network transfer protocol of the router.

## Live Transfer

Sets the quality of the image that is transferred from the DVR to the network.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Network> window to move to <Live Transfer>, and press [ENTER] button. The Live Transfer window appears.
2. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Resolution: Shows the selected network profile's resolution setting.
  - Quality: Shows the selected network profile's image quality setting.
3. When the live transfer is done, press <OK>.



# main menu

## Mailing Service

You can send an e-mail to a DVR-registered user at a specific time interval, or if an event occurs.



- If an event occurs with a channel where the camera's video is set to <OFF> or the remaining recording count is set to <OFF>, only the text notification will be sent to the applicable email address.



- If you set the interval of the e-mail notice too short, the e-mail server may consider it as spam that will not be transferred normally.

## SMTP Setting

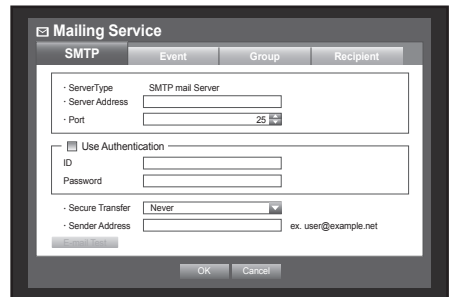
Sets the SMTP mail server.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Network> window to move to <Mailing Service>, and press [ENTER] button.
2. Select <SMTP>.  
You will see the SMTP setting window.

3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.

- ServerType : Displays the connected server type.
  - Server Address : Enter a server to connect to.
  - Port : Sets the communication port.
  - Use Authentication : Check this if the SMTP server uses user authentication. The account input box will be activated.
  - ID : Enter a user to use authentication when connecting to the SMTP server.
  - Password : Enter the password of the SMTP server user.
  - Secure Transfer : Select one from <Never> and <TLS (if available)>.
  - Sender Address : Use the virtual keyboard to enter the sender's e-mail address.
    - Refer to "Using Virtual Keyboard". (Page 42)
  - E-mail Test : Conducts the test on the server settings.
4. When the SMTP setup is done, press <OK>.



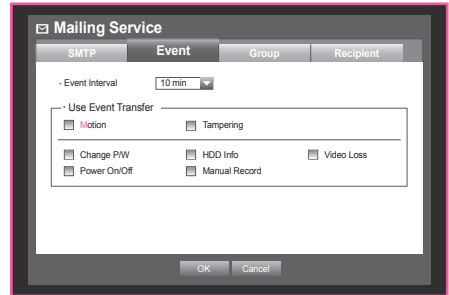


## Event Setting

You can set the interval and type of the event that will be sent to the user.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Network> window to move to <Mailing Service>, and press [ENTER] button.
2. Select <Event>.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Event Interval : Set the event interval.
    - If a series of events occurs, the e-mail will be sent at the specified interval, not on each event.
  - Use Event Transfer : Select an event type to send if an event occurs.  
If the selected event occurs, the e-mail will be sent to the group that has the recipient authority.
4. When the event setup is done, press <OK>.



## Group Setting

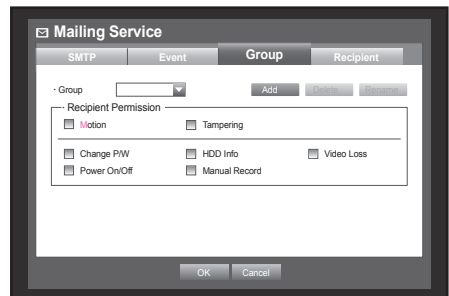
You can set the group to whom the e-mail is sent, and specify the permission for each group.

You can add recipients for each group in the <Recipient> menu item.

The recipient is set separately from the DVR user group.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Network> window to move to <Mailing Service>, and press [ENTER] button.
2. Select <Group>.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.
  - Add : Select <Add> and use the virtual keyboard to add a group.
    - Refer to “Using Virtual Keyboard”. (Page 42)
  - Delete : Deletes the selected group.
  - Rename : You can reset the recipient permission of an existing group.
  - Recipient Permission : Set the permission of the recipient group.
4. When the group setup is done, press <OK>.



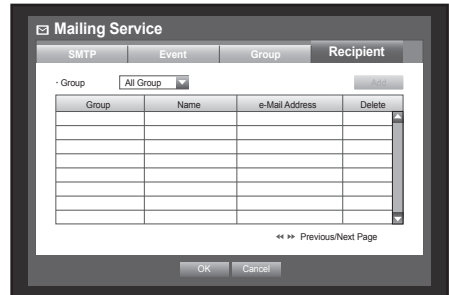
# main menu

## Recipient Setting

You can add/remove a recipient(s) to/from the specified group and edit the group if necessary.

Using the mouse may help make setup easier.

1. Use the up/down buttons (▲▼) in <Network> window to move to <Mailing Service>, and press [ENTER] button.
2. Select <Recipient>.
3. Use direction buttons (▲▼◀▶) to move to a desired item, and set the value.

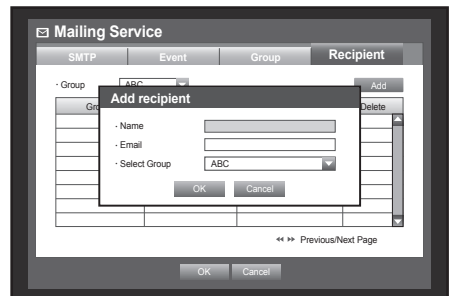


- Add : You can select a recipient name, e-mail address or group.

You should have created a group in the <Group> menu item before you can add a user to the group.

- For inputting the recipient name and email address, refer to "Using Virtual Keyboard". (Page 42)

4. When the recipient setup is done, press <OK>.



# CONTROLLING A PTZ DEVICE

The DVR enables you to adjust the settings of a PTZ camera as well as an ordinary one to your preference.

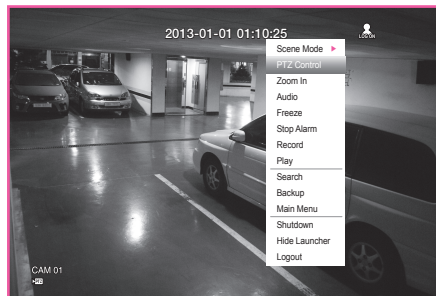
## PTZ Device

The PTZ device can be activated only if a channel in connection with the PTZ camera is selected.



### Getting started with PTZ

The PTZ camera is available, only if a channel is selected, in the following way :

- Using the remote control buttons  
Press the **[PTZ]** button on the remote control.
- Using the launcher menu  
Click < **PTZ** > to display the live launcher.
- Using the right-click menu in Live mode  
Right-click any area on the screen to display the context menu, and select < **PTZ Control** >.



- Using icons on the live screen  
Click the <  > icon on the live screen.

-  The PTZ function is available only if the PTZ camera is connected so that the <  > icon is displayed on the screen.



# main menu

## Using the PTZ camera

You can use one camera to perform all functions of PAN, TILT and ZOOM for monitoring multiple places and set the preset to your preference in a desired mode.


### 1. Launch the <PTZ Control> menu.

As the <PTZ> icon on the bottom right corner turns yellow, you access the “PTZ Control” mode to display the “PTZ Control” menu.



- Be sure to configure PTZ working environments before operation, since the PTZ Working(Active) mark can be appeared to be activated even when PTZ is not operative.


### 2. Use the PTZ wheel in the launcher menu to adjust the monitoring area, or use the direction buttons (▲▼◀▶) on the remote control to move the camera to a desired place.

- PTZ Wheel : Clicking a nearer point to the center will move in that direction slowly; clicking a farther point from the center will move fast.
    - Keep clicking left to rotate the lens counter clockwise; keep clicking right to rotate the lens clockwise.
  - Zoom (⊕ ⊖) : You can use the Zoom function of the PTZ camera.
  - IRIS (⊗ ⊕) : Adjusts the intensity of radiation incoming to the iris.
  - Focus (⊞ ⊟) : Enables you to adjust the focus manually.
  - Swing : Moves between the preset start point and end point.
  - Group : Moves in the path specified by combining the preset, pattern and auto pan.
  - Trace : Moves camera's framing in the predefined path.
  - Preset : Sets the preset position for camera framing and moves to designated preset position when selecting a desired preset.
  - Tour : Moves in the path specified by combining multiple groups.
    - For the coaxial communications, the operation may differ depending on the protocol.
-  ▪ Before entering the PTZ device control mode, set the values of the PTZ device in the <Setting the PTZ> menu. (Page 52)
- For camera specifications that supports PTZ control depending on communication method, refer to our web site.



## Preset Setting

A preset is a set of specific target points of a PTZ camera, and up to 127 presets per a camera can be stored. Using the mouse may help make setup easier.

1. In PTZ Control mode, use the direction buttons to adjust the camera in a desired direction.
  2. Select the <Save> key.
    - The virtual keyboard for inputting the preset will appear.
      - Refer to "Using Virtual Keyboard". (Page 42)
    - Save : You can add and save the preset.
    - Rename : You can change the settings of the existing presets.
    - Delete : Deletes the selected preset.
    - Delete All : Deletes all existing presets.
-  ▪ If you replace the camera of the channel that stores the preset list with a new one, you should reset the preset accordingly.
3. Press <OK>.
    - The preset will be saved as a name that you entered.

## Camera Setting

A PTZ camera has its own menu system. Optimize the PTZ camera according to the DVR. Using the mouse may help make setup easier.

- Select <Camera Setup> in the PTZ Control menu.
  - The camera-specific menu appears.
    - You can configure the settings of only those cameras that support the protocols of Samsung, Pelco D/P, AD and Panasonic.
    - If you are setting Auto Pan or Pattern in the camera menu, press and hold the appropriate button for a certain time so that the button operation can be different from that in normal PTZ setting.

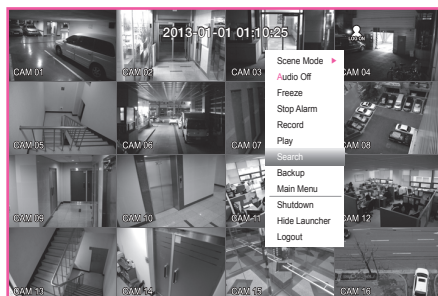


# search & play

## SEARCH

You can perform the search for recorded data by the time or by the search criteria such as an event. You can access the <Search> menu directly in Live mode.

1. In Live mode, right-click any area of the screen. The Live menu appears.  
Or, press the [SEARCH] button on the remote control.
2. Select <Search>.



3. The Search menu appears.
4. The search can be restricted by the Auto Delete function. Refer to "Setting the Recording > Record Option". (Page 62)



- Overlapped data : It only appears if there exists overlapped data on a certain time, produced due to the change of DVR's time setup. The latest data comes first, from <List0>. It does not appear in <Backup Search>.

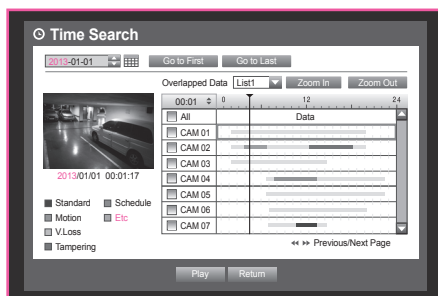


## Time Search

You can search for recorded data of a desired time. As the time to display may be different depending on the time zone and the DST standard time, the time of data recorded in the same time can be displayed differently depending on time zone and DST settings. Using the mouse may help make setup easier.

1. Select <Time Search> in the <Search> menu.
2. Select a date to search.
  - Refer to "Using the Calendar". (Page 41)
3. The record data on the specific date will be listed. The display bar is different according to the data type. So check the data type for the color in the left pane.
4. Use direction buttons (▲▼◀▶) to set the search criteria and press the [ENTER] button.

- Go to First : Moves to the earliest date.
- Go to Last : Moves to the most recent date.
- Time : Enter a time to perform the search or use the up/down button <◆> to select one.
- Previous/Next Page : Moves to the previous / next page. (Use the remote control on the buttons.)



- **Zoom In** : The map enlarges in detail.  
It will switch in the sequence of 24 hours - 16 hours - 8 hour - 4 hours.
- **Zoom Out** : The map will switch in the reverse order of the detailed mode above.  
It will switch in the sequence of 4 hours - 8 hour - 16 hours - 24 hours.



- Double-click a desired time to zoom it in/out.

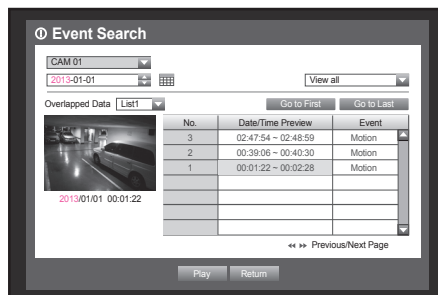
- **Preview** : Click <Channel> and select (click, drag) a time in <Duration> to display a still image for the portion.  
- If the selected channel does not contain any recorded data, it will be marked black.
5. Select a data item and click <Play>.  
The screen switches to the data playback mode.



## Event Search

You can search for events by the channel and play them.  
Using the mouse may help make setup easier.

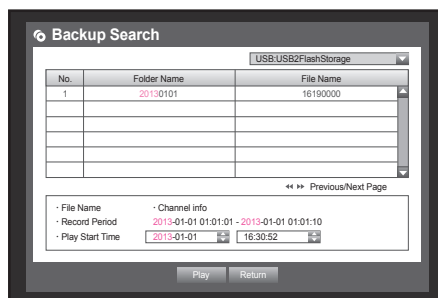
1. Select <Event Search> in the <Search> menu.
  2. Use direction buttons (▲▼◀▶) to set the search criteria and press the [ENTER] button.
    - All record events on a specific date will be found. (Normal/Schedule recording included)
  - **Date/Time Preview** : If you select a data item in the list, the still image of the selected data will be displayed in the left preview pane.
  - **Event** : Displays the type of the event that occurred.
3. Select a data item and click <Play>.  
The screen switches to the event data playback mode.



## Backup Search

Searches for backup data in the connected backup device.  
Only data in the format of DVR is included in the search.  
Refer to <Type> in "Backup > Setting the Backup". (Page 66)  
Using the mouse may help make setup easier.

1. Select <Backup Search> in the <Search> menu.
2. Use direction buttons (▲▼◀▶) to set the search criteria and press the [ENTER] button.
  - **Record Period** : Displays the record period.
  - **Channel info** : Displays the recorded channel.
  - **Play Start Time** : Select a time that you start playing.
3. Select a data item and click <Play>.  
The screen switches to the backup data playback mode.



# search & play

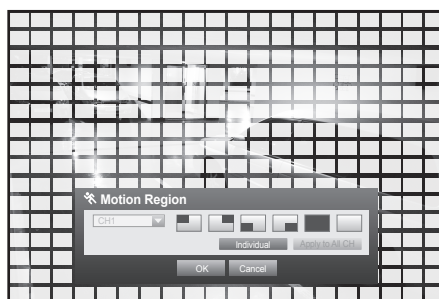
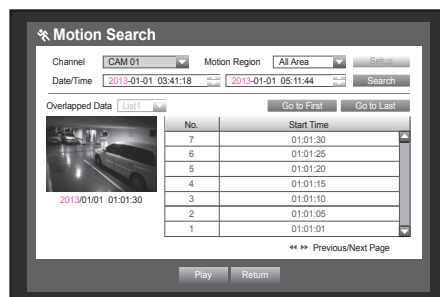
## Motion Search

If a motion is detected in each channel, you can set a desired area to perform the search.

You can use the mouse to select the related items.

1. Select <Motion Search> in the <Search> menu.
  2. Use direction buttons (▲▼◀▶) to set the search criteria and press the [ENTER] button.
    - If you set the motion area to <Manual Area>, the <Setup> button will be activated.
  - Motion Region : Select an area to perform the search.
    - All Area : Searches for all areas of the selected channel.
    - Current Area : Searches for the motion area for each channel specified in "Motion Detection > Setting the Motion Detection Area". (Page 64)
    - Manual Area : You can set the motion area manually.
  - Setup : The Setup button will be activated only if you have set the motion area to Manual. Press this button to display the area setting window.
  - Date/Time : The Date/Time will be automatically set by the hour, and the end time will be automatically set to one hour later than the start time if it is set.
  - Preview : Select a data item in the list to display the still image of the item.
3. Select a data item and click <Play>.

The screen switches to the motion data playback mode.





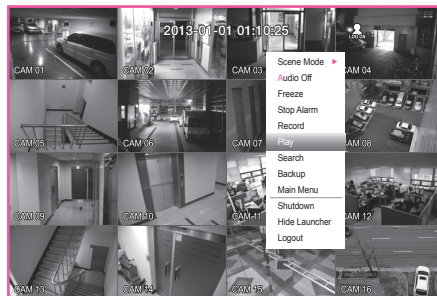
# PLAYBACK

## Play

You can play data stored in the HDD and backup a desired portion of the data.

Using the mouse may help make setup easier.

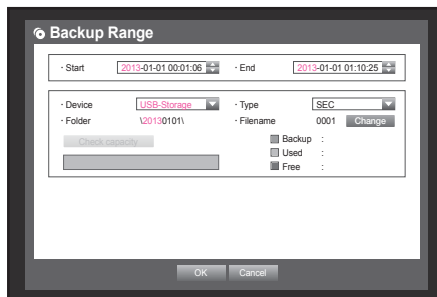
1. In Live mode, click **<Play>** in the right-click menu or **<▶>** in the launcher menu, or press the Play button on the remote control.
2. Use the up/down button (▲▼) to select a menu.
  - For data search, refer to **<Search>**. (Page 80)



3. Select a data item and click **<Play>** in the Search menu. The selected data is played and the play launcher appears on the screen.
  - If there is an existing data, **<Play>** will start immediately without performing the search.
- Playback Information : Displays the date and time of the current data in the top corner.



- Backup : Click **<🔍>** to set the current time to the start time of backup; you can specify a backup area using the mouse (yellow triangle). Click **<🔍>** again to set the current time to the end time of the backup and the **"Backup Range"** window appears.

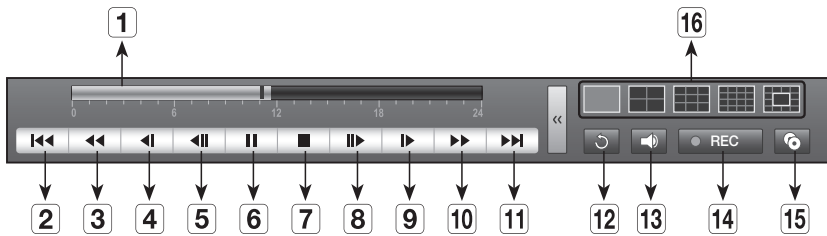


- Type : Supports formats of DVR and SEC. Refer to a list of formats in **"Setting the Backup"**. (Page 66)
- Device : Select a backup device.
- Check Capacity : Enables you to check the capacity of the selected storage device.

4. If you want to return to the Live screen in Play mode, click **<■>** in the launcher menu or press the **[■]** button on the remote control.

# search & play

## Using the Playback Button



Part Names	Functions
<b>1</b> Play Timeline	Indicates the current playback point, and can be used to move.
<b>2</b> Skip Backward	Moves backward by unit time.
<b>3</b> Backward Fast Play	Used for quick backward playback.
<b>4</b> Backward Slow Play	Used for backward frame-by-frame search while in PAUSE.
<b>5</b> Step Backward	Moves backward by one frame at a time.
<b>6</b> Pause	Stops playing the current video temporarily.
<b>7</b> Stop	Stops playback and moves to the live screen.
<b>8</b> Step Forward	Moves forward by one frame at a time.
<b>9</b> Forward Slow Play	Ensured to play forward up to 4 channels simultaneously at a low speed. <ul style="list-style-type: none"> <li>■ In a split mode, the real time playback may not be supported, depending on the record quality, resolution and number of channels. And some frame rates may be supported.</li> </ul>
<b>10</b> Forward Fast Play	Used for quick forward playback.
<b>11</b> Skip Forward	Moves forward by unit time.
<b>12</b> Return	Return to the search setup screen.
<b>13</b> Audio	Sets Audio ON/OFF.
<b>14</b> REC	Records all channels in Live mode.
<b>15</b> Partial Backup	Begins backup of the selected section of the video being played, with the specified starting/ending point.
<b>16</b> Mode Switch	Click a desired playback mode or press <b>[MODE]</b> to switch the screen mode in sequence. <ul style="list-style-type: none"> <li>■ The grey area in the center of the 13-split mode plays the Live channel.</li> <li>The default channel of the Live mode is CH1, which can be changed later.</li> </ul>

# web viewer

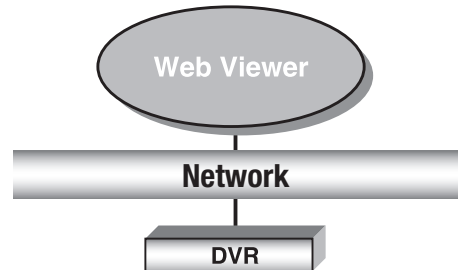
## INTRODUCING WEB VIEWER

### What is Web Viewer?

Web Viewer allows remote access to your DVRs. You have access to live video, archived video, PTZ control (if configured), etc.

### Product Features

- Remote access from a standard browser
- Supports PTZ camera controls
- Supports 1, 4, 9, 16 camera viewing formats (maximum of 16 cameras in the list).
- Gets JPEG format images to print and save to "Print or Save JPEG format images".
- Record video in AVI format-compatible with popular media players. (needed the H.264 codec)



### System Requirements

The following lists the minimum suggested hardware and operating system requirements needed to run the Web Viewer.

	Minimum	Recommended
CPU	Intel Core2 quad 2.5GHz	Intel i7 or higher
RAM	3GB or more	3GB or more
HDD	200GB or more	200GB or more
VGA memory	512MB or more	1GB or more
Resolution of display	1280x1024 or higher	
OS	Windows XP, Vista, 7	
DirectX	9.0c	
Direct3D	Acceleration feature	
Ethernet	10/100/1000 Ethernet NIC	
IE	32bit	
IE	7, 8, 9 (with the latest security patch and bug patch)	

# web viewer

## CONNECTING WEB VIEWER (Windows)

1. Open your web browser and type the IP address or URL of DVR into the URL address box.



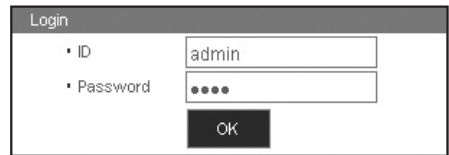
- "192.168.1.200" is set to IP by default.
- Set to an available IP address in IP Installer or "Network > Connection Mode".
- The URL connection will be enabled only when the DDNS connection settings have been completed.



2. A user with the admin permissions should provide the admin ID and password. A registered user should provide the user ID and password.

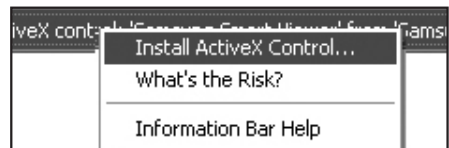


- The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
- Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.
- Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

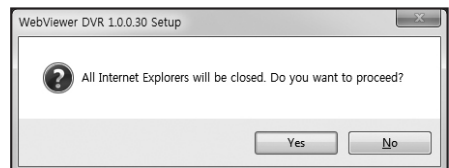


- It allows up to 10 simultaneous access including the Admin and general users.
- It does not allow multiple login of the Admin user.
- Initial password of the Admin user is set to "4321".
- Password of the Admin and general users can be changed in <Permission Management> menu of the DVR.
- Normal users should have set <Viewer> under <Permission Management> to "Use" before connecting to the Web Viewer. (Page 45)
- All settings are applied by the DVR's settings.
- If you change such as the permission settings with logged in to the Web Viewer, you may go back to the log in screen.

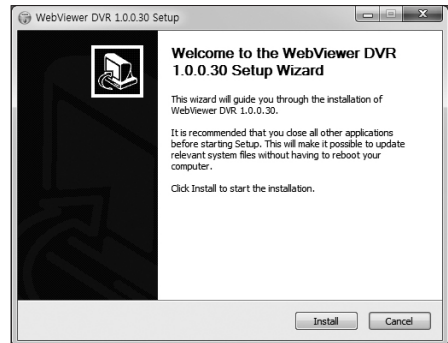
3. Click <Install ActiveX Control...>.



4. When the installation confirm message appear, click [Yes] button.



5. When a program installation wizard window appears, press the **[Install]** button to install the program.



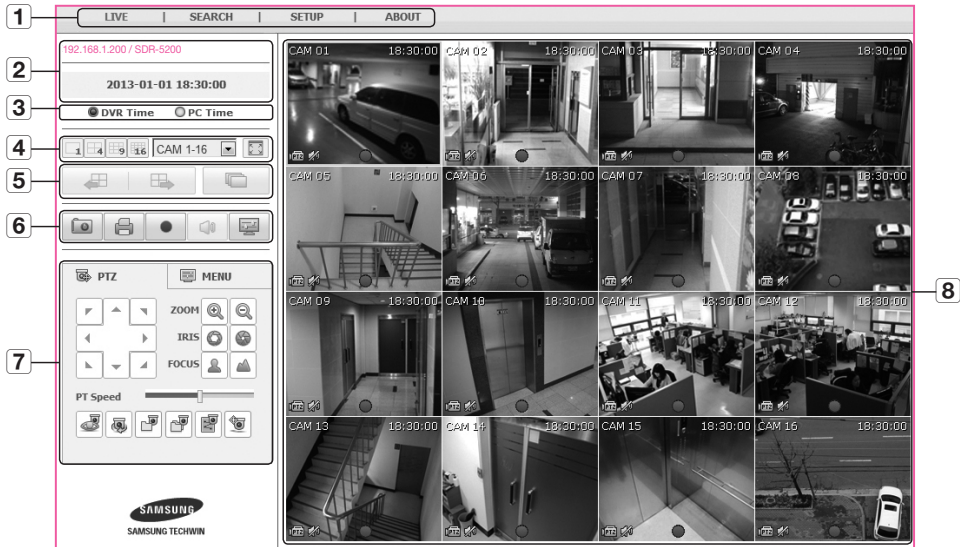
6. Open the Web Viewer after installing software, and log in again.  
Live Viewer's main screen appears when you log in successfully after installing the program.



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## USING LIVE VIEWER (Windows)


The Live Viewer screen consists of following :



Menu		Functions
1	<b>Menu Selection</b>	Switches into corresponding menu screen by clicking each menu.
2	<b>Address, Name, Time</b>	Displays the IP, model name, time, etc. of connected DVR.
3	<b>DVR Time, PC Time</b>	Select <DVR Time> or <PC Time> for the OSD time information display setting of the Live Viewer.
4	<b>Split Mode Selection</b>	Selects the type of split screen and specify the channel displayed in Display Pane.
5	<b>Change Channel</b>	Switches into previous/next channel or perform Auto Sequence. Click Auto Sequence button to display the Time Interval Selection menu.
6	<b>CAPTURE</b>	Saves current video for selected channel in designated path.
	<b>PRINT</b>	Prints current video image for selected channel through designated printer.
	<b>AVI Save</b>	Records the live video in AVI file format in designated path, and then stops recording. Recording status icon is displayed on screen during recording.
	<b>Audio</b>	Sets the sound connected to each channel to ON/OFF.
	<b>OSD</b>	Select the format of OSD information that will be displayed.

	Menu	Functions
7	PTZ	Controls connect PTZ camera(s).
	Menu	Goes to the relevant menu screen of a camera, which supports OSD menu and changes the menu.
8	Display Pane	Displays the video of camera connected to DVR.


## OSD Information Display

- 1 The channel number of the connected DVR are displayed.
  - 2 Either the <DVR Time> or the <PC Time> will be displayed as the current date and time, according to your configuration.
  - 3 It displays whether the PTZ controls are active.
  - 4 Shows Audio On/Off status.
  - 5 Alarm icon appears when alarm is issued. It disappears when pressed the [ALARM] button of the DVR.
  - 6 Shows the recording status.
- 
    - If you have set PTZ cameras for the DVR, "PTZ" is displayed on the screen. Select a PTZ camera channel and use the [PTZ] button for camera control.



## Connected DVR

This displays the IP address and the status of the connecting DVR.

- 
  - Connection failure message
  - **No Response** : Appears when the DVR does not respond.
  - **Access Denied** : Appears when the maximum number of users is exceeded.
  - The number of simultaneous connections are limited to 10.



## Setting the Display of the OSD Time Information

Select <DVR Time> or <PC Time> for the OSD time information display setting.

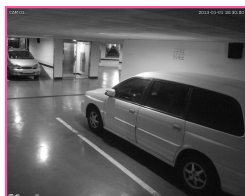
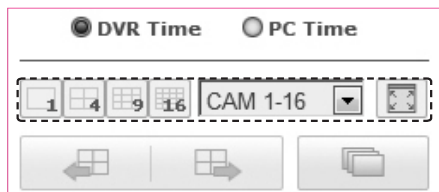
- **DVR Time** : Based on the time of the connected DVR
- **PC Time** : Based on the time of the PC currently running the Web Viewer.



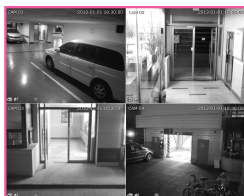
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## Split-Screen

Click split mode selection button to switch to the corresponding screen mode.



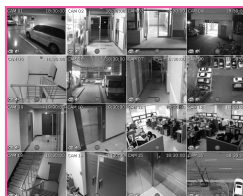
SINGLE MODE



QUAD MODE



NINE MODE



SIXTEEN MODE

## To switch to full screen mode

Click <  >.




Current split screen appears in full screen.

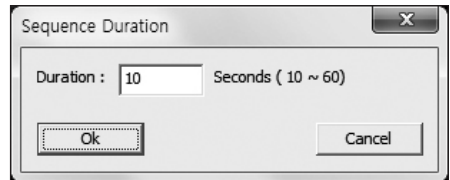
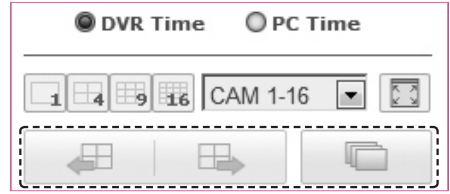
Press the [ESC] key to exit the full screen mode.






## Changing the Live Screen Mode

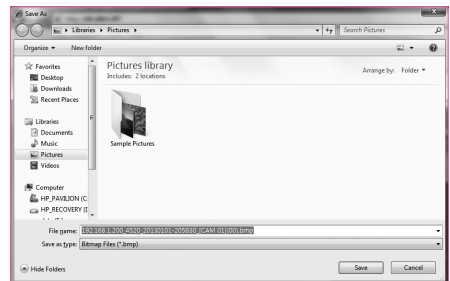
- 16-split mode does not support “SEQUENCE”, “PREVIOUS” and “NEXT”.
-  : When this button is clicked, the previous screen appears.
  - In SINGLE MODE, the channel numbers are switched in reverse order.
  - In QUAD MODE, the screens are changed like 1st 4 channels (1~4) → 2nd 4 channels (13~16) → 3rd 4 channels (9~12) → 4th 4 channels (5~8).
  - In NINE MODE, the screens are changed from 9 channels (1~9) to 7 channels (10~16).
-  : When this button is clicked, the next screen appears.
  - In SINGLE MODE, the channel numbers are sequentially switched from 1 to 16.
  - In QUAD MODE, the screens are changed like 1st 4 channels (1~4) → 2nd 4 channels (5~8) → 3rd 4 channels (9~12) → 4th 4 channels (13~16).
  - In NINE MODE, the screens are changed from 9 channels (1~9) to 7 channels (10~16).
-  : When this button is clicked, screens are switched at a preset interval.
  - In SINGLE MODE, the channel numbers are sequentially switched from 1 to 16.
  - In QUAD MODE, the screens are changed like 1st 4 channels (1~4) → 2nd 4 channels (5~8) → 3rd 4 channels (9~12) → 4th 4 channels (13~16).
  - In NINE MODE, the screens are changed from 9 channels (1~9) to 7 channels (10~16).
- Preset interval (10 seconds)



## To capture a screen


1. Click <  > button.  
When a pop-up window appears, select the saving path for captured image.
2. Select the path and name the file. And then click the <Save> button.
3. Save current camera's video image as .bmp, .jpg or .png file.

- ! ▪ If the viewer is running without the administrator's permission in Windows Vista/7, you may not save the captured image as .bmp, .jpg or .png file.




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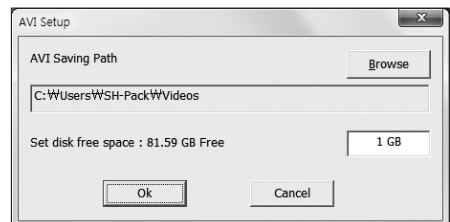
## To print a screen

1. Click <  > button.
2. Print current camera's video image with the printer connected to the PC operating the Web Viewer.



## To save as AVI

1. Click <  > button.  
When “**AVI Setup**” window appears, select the record saving path and capacity.
2. Select a desired path, enter the maximum recording capacity, and then click <OK>button.
  - Save current channel's video as .avi file. For playing a video clip, you can use the free video player to play the video. (ex: GOM Player, KM Player, etc.)
  - After saving an AVI file, install the CODEC when playing it in Windows Media Player.
  - However, the video may not be played properly, depending on the CODEC compliance of the player. At least 1GB of free space is required for recording.



- While recording current data in Web Viewer, you cannot select Split Mode buttons, switch to the previous/next screen, or activate Auto Sequence function.
- If the viewer is running without the administrator's permission in Windows Vista / 7, you may not change a folder when saving a video as AVI file.

## Audio

-  : Sets audio of each connected channel to On/Off.

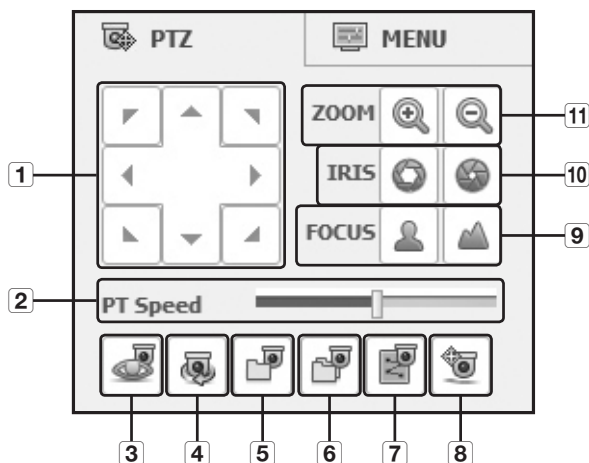
## OSD

-  : Select Show OSD on the Live screen.

# CONTROLLING A CONNECTED NETWORK CAMERA


## Controlling PTZ

If PTZ camera is connected, the <PTZ> icon appears on screen. When selecting corresponding camera channel, the PTZ tab is provided to allow you to control the PTZ.




Part Names	Functions
<b>1</b> Direction Adjustment	Adjusts the direction of a camera.
<b>2</b> PT Speed	Adjusts the PAN, TILT reaction speed.
<b>3</b> Preset	Sets the preset position for camera framing and moves to designated preset position when selecting a desired preset.
<b>4</b> Swing	Moves between the preset start point and end point.
<b>5</b> Group	Moves in the path specified by combining the preset, pattern and auto pan.
<b>6</b> Tour	Moves in the path specified by combining multiple groups.
<b>7</b> Trace	Moves camera's framing in the predefined path.
<b>8</b> PowerPTZ	Click or drag on the screen to control PTZ.
<b>9</b> FOCUS	Adjusts the focus of the camera.
<b>10</b> IRIS	Adjusts image's brightness by controlling the camera's iris.
<b>11</b> ZOOM	Zooms in/out the image by controlling camera's zoom.

## To set a preset

1. Click <  > button to display “Preset” window.
2. Click <  > to select a desired preset number.
3. Enter the name of preset.
4. Use direction keys to adjust the direction which camera aims at.
5. Click the <RECORD> button.

## To activate the preset

1. Click <  > button to display “Preset” window.
2. Select a desired preset to activate from the list.  
The camera’s framing moves to the preset position.



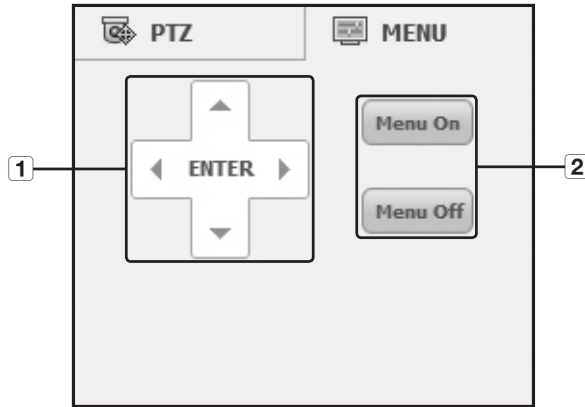
## To activate Swing, Group, Tour and Trace

You can activate listed functions in the same manner as using a preset. For more information, refer to corresponding user manual of applicable camera.

-  Only selective functions of the camera can be supported, depending on camera.

## Controlling OSD Menu

If connected network camera supports the OSD menu, press the < **Menu On** > to enter camera's menu screen to change its settings.



Part Names		Functions
1	Direction Adjustment	You can go to a desired menu.
	ENTER	Selects a desired item.
2	Menu On/Off	You can On/Off camera's OSD menu settings.



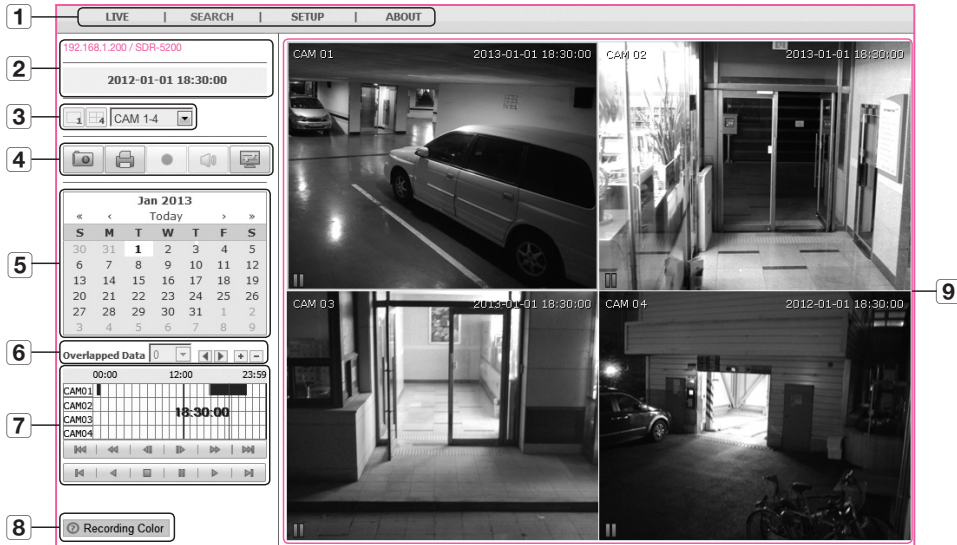
- For more information about camera's OSD menu, refer to corresponding user manual of each camera.

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## USING SEARCH VIEWER

The Search Viewer screen consists of following :

- Up to 3 users can access simultaneously.



Menu	Functions
<b>1</b> Menu Selection	Switches to the corresponding menu screen by clicking each menu.
<b>2</b> Address, Name, Time	Displays the IP, model name, time, etc. of connected DVR.
<b>3</b> Split Mode Selection	Selects the type of split screen and selects the channel displayed in Display Pane.
<b>4</b> CAPTURE	Saves current video for selected channel in designated path.
<b>4</b> PRINT	Prints current video image for selected channel through designated printer.
<b>4</b> AVI Save	Records and saves currently playing video image as AVI file in designated path and then stops.
<b>4</b> Audio	Sets the sound connected to each channel to ON/OFF.
<b>4</b> OSD	Select the format of OSD information that will be displayed.
<b>5</b> Calendar	Displays the video-recorded date in blue and today in white. Click the date in blue color to display the recorded video information in timeline.
<b>6</b> Overlapped Data	Displays and zooms in/out recorded video data. If overlapping data found, this function selects one of them to play.

Menu		Functions
7	Play Control	Adjusts current video's playback speed and played time position.
8	Recording Color	Displays the corresponding color depending on recorded data type if you place your mouse cursor on that area.
9	Display Pane	Plays corresponding data on the screen if you select a search result.

## Searching the Recorded Video in the Calendar

Dates having recorded video are marked in blue. Click a date marked blue to display video information on the timeline. When you click < Today >, it will be synchronized with the system time (date) of the current PC.

Jan 2013						
Today						
S	M	T	W	T	F	S
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

### To search by date

You can select the search date by using calendar.

1. Click < ⏪ > or < ⏩ > to select the year to search.
2. Click < ◀ > or < ▶ > to select the month to search. The date including data appears in blue and today appears in red.
3. Click the date to search in calendar. The first image of searched video data on the date is displayed on screen and the data is displayed in the timeline.
4. To search video data on today, click < Today >. Today's date is selected.

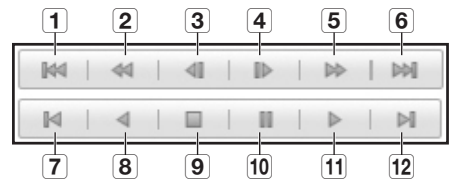
### To adjust timeline

If searched data are overlapping, you can select a desired data, move its playback time point, and zoom in/out the timeline.

1. Select the number of data to search if data is overlapping. It appears only when data are overlapped and assigns < 0 > to the most recent data.
2. Click your desired time point to play on the timeline. The playback start point is moved.
3. Click < + >, < - > to zoom in/out the zoom factor to display time.
4. To show the previous/next timeline in zoomed-in status, click < ◀ > or < ▶ > to go to the left or right.

## Names and Functions of Play Buttons

- 1 Moves backward by 10 minutes from the current playing point.
- 2 Plays in reverse at doubled speed. The playback speed is doubled up to x64 speed.
- 3 Moves backward by 1 second from current playing point.
- 4 Moves forward by 1 second from current playing point.
- 5 Plays at doubled speed. The playback speed is doubled up to x64 speed.
- 6 Moves forward by 10 minutes from the current playing point.
- 7 Moves to the recording start point on the corresponding timeline.
- 8 Plays in reverse.
- 9 Stops playing. When resuming playback, it is played from the recording start point.
- 10 Pauses playing. When resuming playback, it is played from the stopped point..
- 11 Plays normally.
- 12 Moves to the recording end point on the corresponding timeline.





# VIEWER SETUP

You can configure the DVR settings remotely on the network.  
To configure the DVR settings, click <Setup>.

## System

You can configure the various settings of the DVR system.

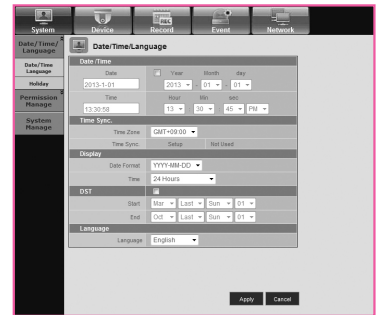
### Date/Time/Language

For more information, refer to <Date/Time/Language> in the <System Setup> menu. (Page 40)

1. Select <Date/Time/Language> in the System menu.
2. Configure the DVR settings according to your system environment.

- **Date/Time**

Set the date and time.



- **Time Synchronization Setup**

Set the time synchronization.

- **Display**

Date Format : Set the date type.

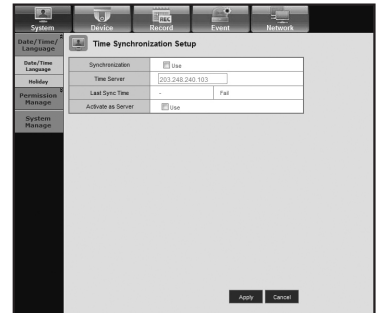
Time : Select a time format to display on the screen.

- **DST (Daylight Saving Time)**

DST is displayed an hour ahead of the standard time of the time zone.

- **Language**

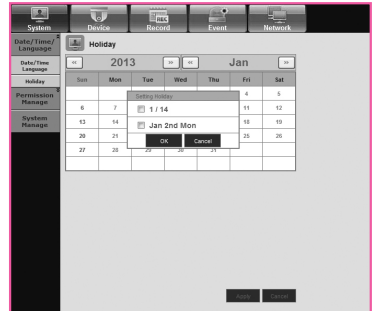
Select a preferred language for the DVR.



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## Holiday

You can set specific dates to Holidays according to your preferences. For more information, refer to <Setting Holiday> in the <System Setup> menu. (Page 41)



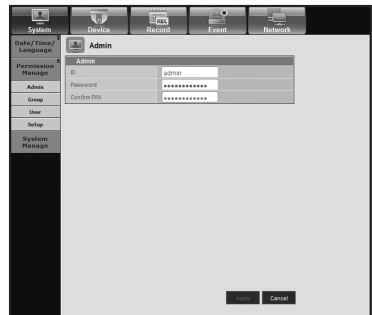
## Permission Management

For more information, refer to <Permission Management> in the <System Setup> menu. (Page 42)

### • Admin

You can change the admin ID or the password.

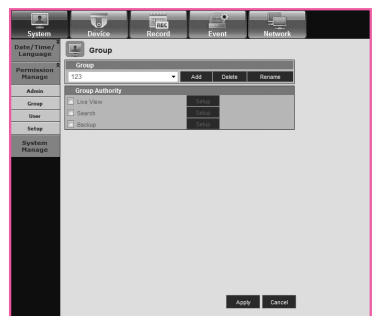
- You can type the ID with alphanumeric characters only.
- For the password, use alphabets and special characters excluding <\> and <">.



### • Group

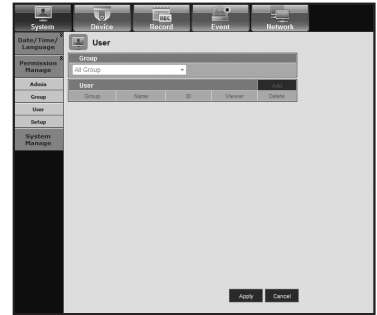
Users are classified into groups and the permission can be set according to the group.

- First of all, add a group.



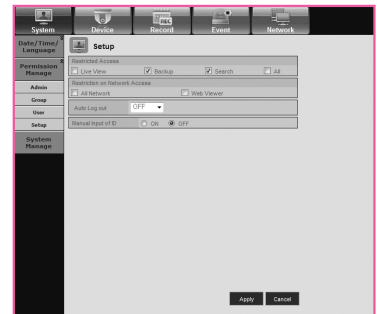
- **User**

You can add, change or remove a user or users.



- **Setup**

You can set the user permission.



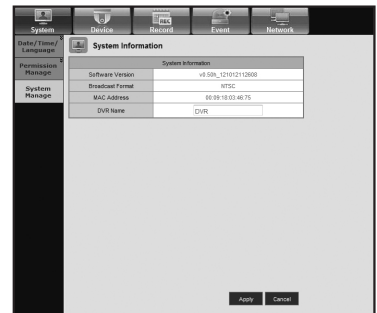
## System Management

For more information, refer to <System Management> in the <System Setup> menu. (Page 46)

- **System Information**

You can see information of the current system.

Check the Software Version, Broadcast Format and MAC Address.



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## Device

You can check a list of devices that are connected to the DVR and configure the necessary settings. Click <Device> in the menu screen.

For more information, refer to "Setting the Device". (Page 50)

## Camera

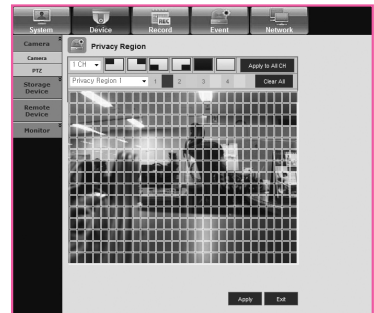
### • Camera

You can configure the settings of the camera that is connected to the DVR.



### • Privacy Region

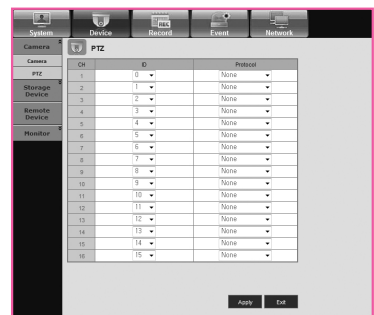
You can specify a certain area of the camera video to be protected for your privacy.



### • PTZ

You can configure the settings of the PTZ camera that is connected to the DVR.

Set the ID and protocol.

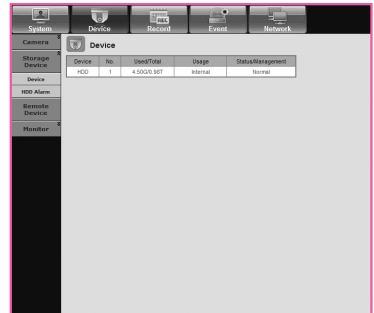


## Storage Device

You can check and change the settings of the storage device.

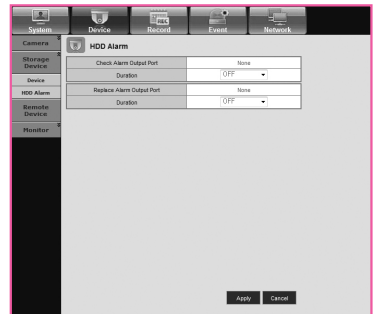
- **Device**

You will see a list of storage devices that are connected to the DVR. You can check the type, used/total, usage and status of the device.



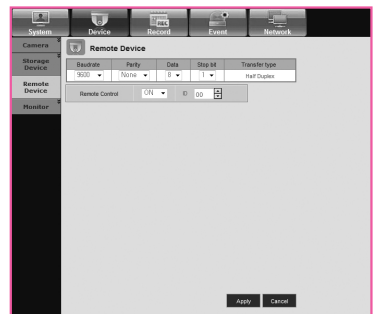
- **HDD Alarm**

You can set the alarm output channel and the alarm duration for an error.



## Remote Device

You can see a list of remote devices including PTZ cameras and system keyboards that are connected to the RS-485 port of the DVR and configure the necessary settings.



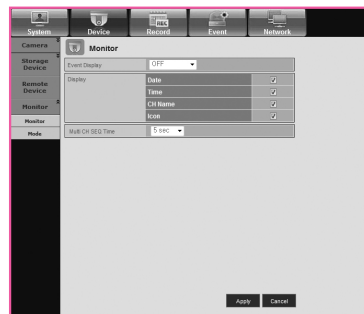
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## Monitor

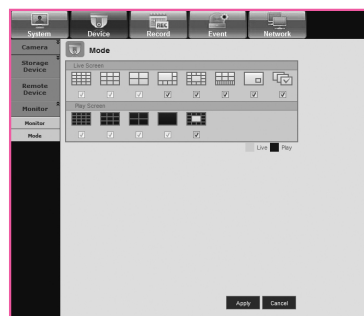
- Monitor

You can configure the monitoring screen settings and set the output system.



- Mode

You can switch between live mode and play mode.

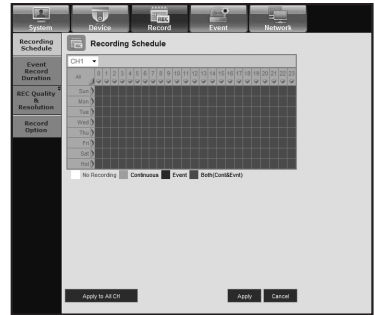


# Record

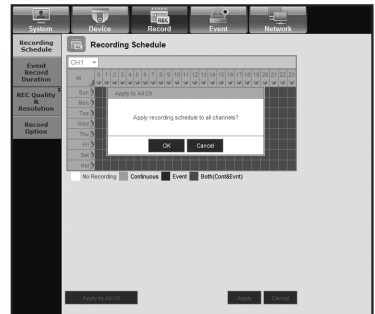
For more information, refer to <Setting the Recording>. (Page 60)

## Recording Schedule

If you set a recording schedule for a specific date and time, the recording will start at that specific time.

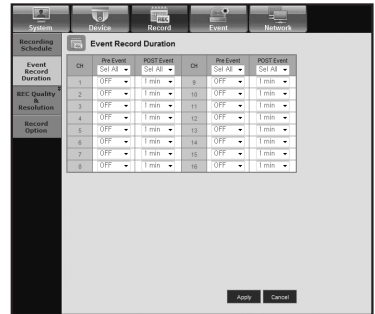


- Apply to All CH : Click <Apply to All CH> to display the confirmation window.



## Event Record Duration

You can set the start and end times of recording that will be activated if an event occurs.

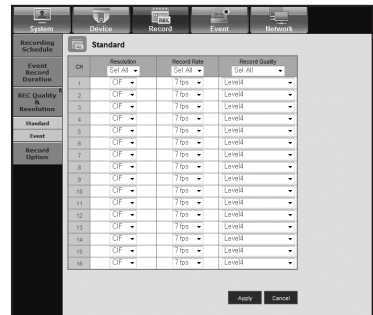


# web viewer

## REC Quality & Resolution

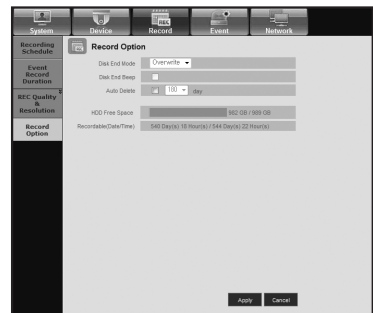
- Standard/Event

You can set the resolution, frame rate and recording quality for each channel.



## Record Option

You can set the Disk End Mode.

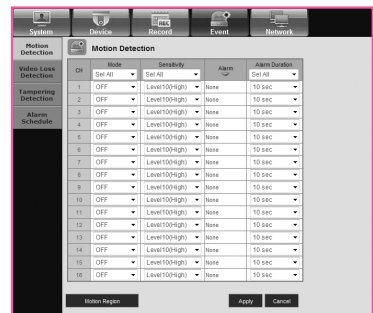


## Event

For more information, refer to <Setting the Event>. (Page 63)

## Motion Detection

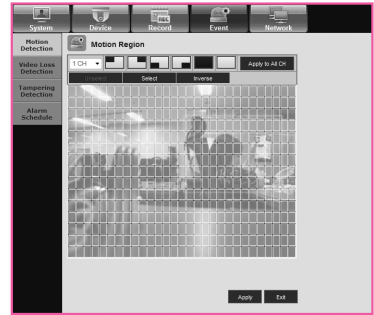
You can set the motion detection mode and the sensitivity as well as the alarm output type and the duration.





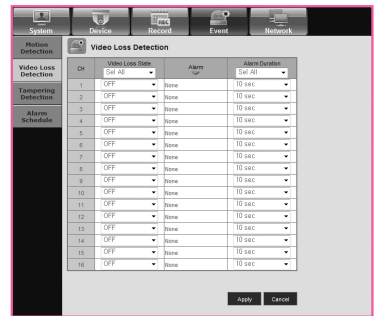
- **Motion Region**

Set the target motion detection area



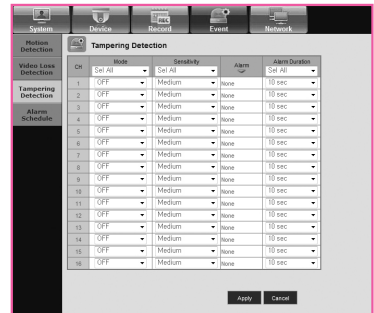
## Video Loss Detection

You can set the alarm output time if a video loss occurs.



## Tampering Detection

You can set whether to generate alarm and its dwell time for video tampering events.

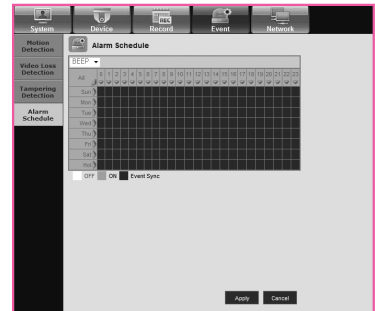


# web viewer

## Alarm Schedule

You can schedule the alarm output according to the day of the week and the time.

The default setting is Event Sync, which activates the alarm only if an event occurs.



## Network

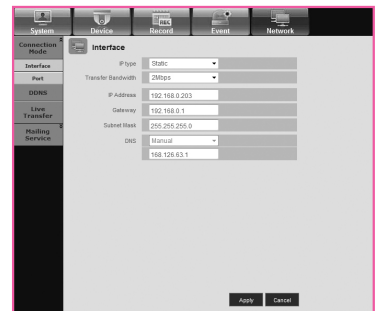
For more information, refer to <Network Configuration>. (Page 68)

### Connection Mode

A remote user can access the DVR via the network to check the current mode and the IP address.

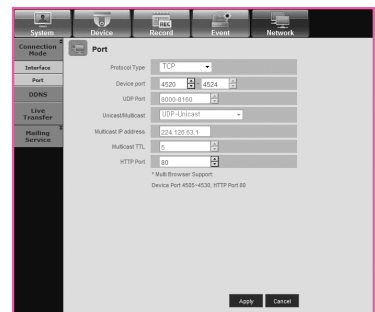
- **Interface**

You can set the network connection route.



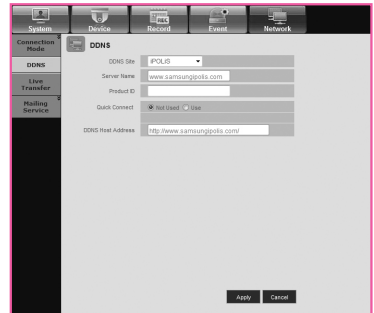
- **Port**

You can configure the protocol related settings.



## DDNS

You can check the DDNS settings.

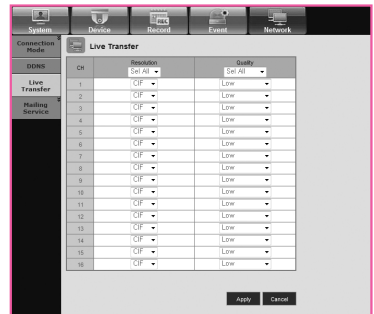


## Live Transfer

You can set the network camera's network transfer settings.

- **Live Transfer**

A remote user can set the image resolution of the transferred data.

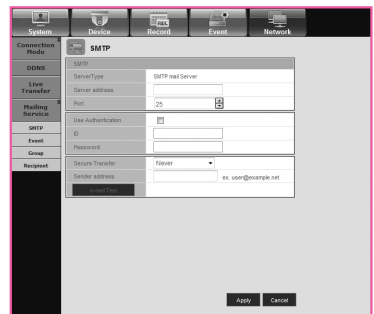


## Mailing Service

You can specify the SMTP server that sends a mail if an event occurs and set the recipient group and users.

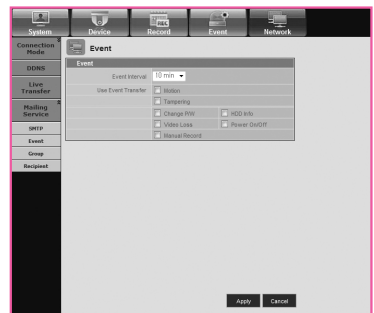
- **SMTP**

You can set the server that sends mails and specify if you use the authentication process.



- **Event**

You can set the event interval and specify which events the server sends mails for.

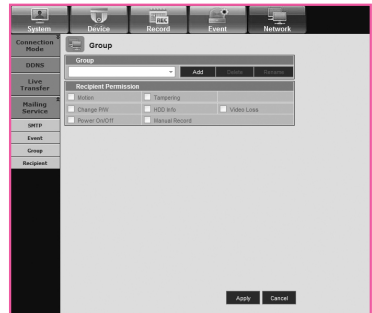


# web viewer

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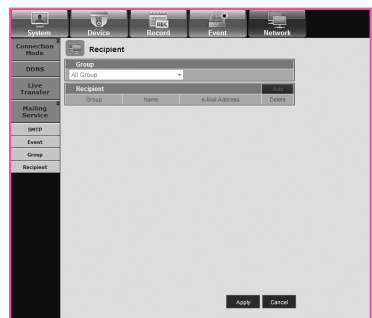
- **Group**

You can add a group to receive the mail if an event occurs and set the permission to receive the event mail for each group.



- **Recipient**

You can add a user or users who will receive the mail.



## ABOUT

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Click <ABOUT>.

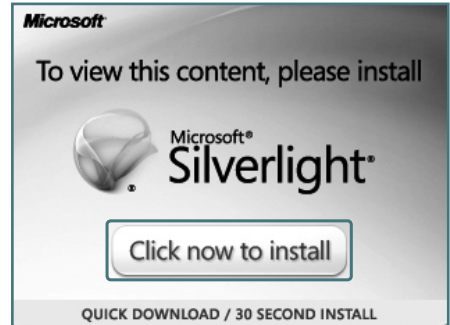
Displays the model name of connected DVR and the version of Web Viewer.

## CONNECTING WEB VIEWER (Mac)

### Safari on MAC.

If you want to use SRD-Series DVR Web Viewer with Safari Browser on a Mac, please refer to this user guide and install Multi Viewer with firmware upgrade if necessary.

- Mac OS versions available: 10.6 or later version
  - Silverlight: 5 or later
1. Click **[Click now to Install]** to display the installation screen as shown.



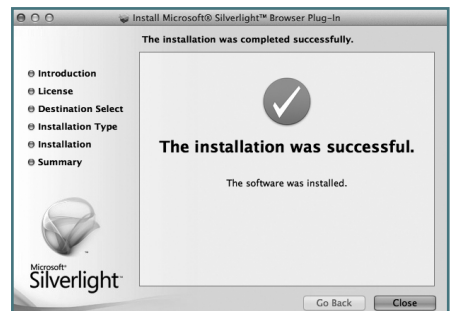
2. Double-click the **[Silverlight.pkg]** icon to display the Silverlight plug-in installation screen as shown.



3. Click **[Continue]** to start installing Silverlight plug-in. When done, you will see the screen as below.



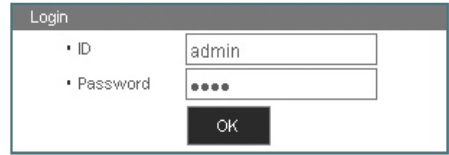
4. Click **[Close]** to exit from the Silverlight plug-in installation screen.



# web viewer

• If Microsoft Silverlight plug-in is already installed

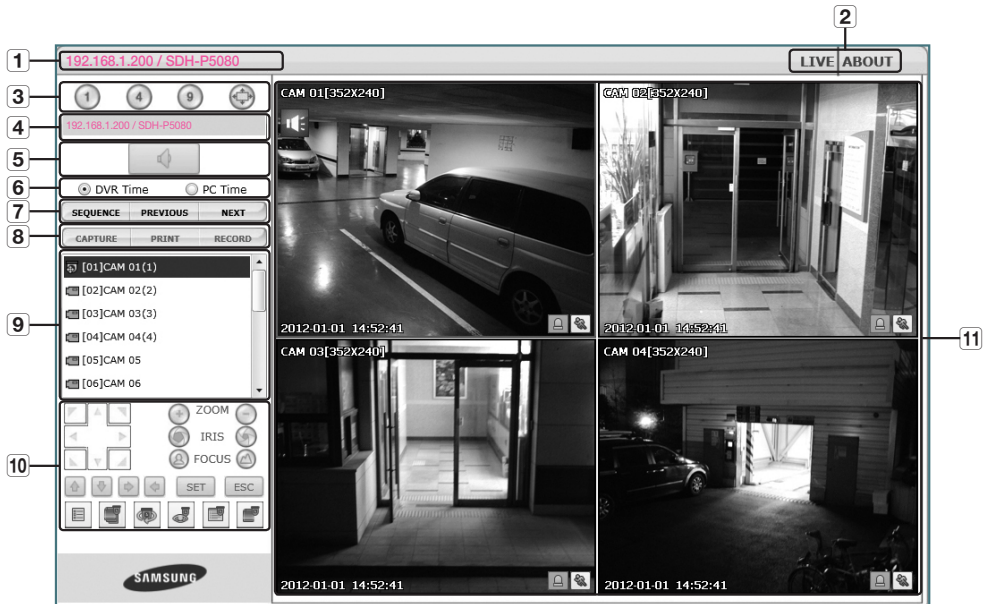
1. Use a web browser to connect to the DVR.
2. If Silverlight plug-in is already installed, you will see the login screen as shown.
3. If the login screen does not appear, check if the DVR set is connected properly with a valid IP address.



- If automatic proxy is activated and an invalid DNS server is specified while configuring network, the Internet access may not be available.
- For more details on using the Web Viewer, please refer to "Connecting Web Viewer." (Page 88)

## USING LIVE VIEWER (Mac)

The Live Viewer screen consists of following :



	Menu	Functions
1	<b>Name, Address</b>	Displays a connected DVR's IP address and model name.
2	<b>Menu Selection</b>	Consists of <LIVE> and <ABOUT> menu.
3	<b>Split Mode Selection</b>	These buttons are used for the screen split and full screen mode. <ul style="list-style-type: none"> <li>▪ Supports up to a maximum of 9 channels due to performance constraints of Silverlight</li> </ul>

	Menu	Functions
4	Address, Name	Displays a connected DVR's IP address and model name.
5	Audio	Sets the sound connected to each channel to ON/OFF.
6	DVR Tim, PC Time	Select <DVR Time> or <PC Time> for the OSD time information display setting of the Live Viewer.
7	Change Channel	Switches into previous/next channel or perform Auto Sequence. Click Auto Sequence button to display the Time Interval Selection menu.
8	CAPTURE	Saves current video for selected channel in designated path.
	PRINT	Prints current video image for selected channel through designated printer.
	RECORD	Starts and stops recording. If you cannot play the file recorded from the web, please install the H.264 CODEC. ex) MAC: perian_1.2.3.dmg ( <a href="http://perian.org">http://perian.org</a> )
9	Channel	Indicates connected DVR's channels.
10	PTZ	Controls connect PTZ camera(s).
11	Display Pane	Displays the video of camera connected to DVR.

## MOBILE VIEWER

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### What is Mobile Viewer?

Mobile Viewer is management software that enables you to connect to DVR (Digital Video Recorder) remotely and control the video playback and PTZ operations (if configured) in real time.

### Key Features

- Remote access via Smart phone
- Voice Recognition
- 1-split and 4-split modes supported in Live Viewer
- Supports single channel search function
- Switch channels using the touch-sensitive LCD panel
- PTZ camera operations supported (complies with the protocol of the connected DVR)
- Up to 16 channels supported

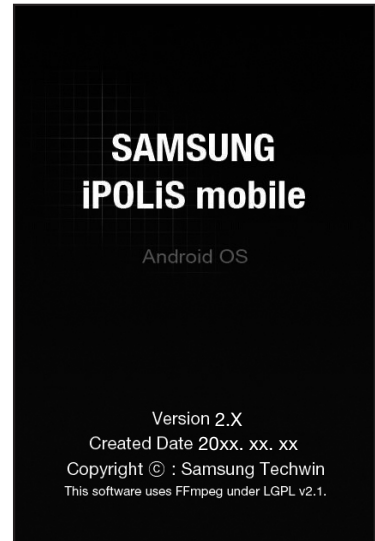
### Compatible Smartphone

This application is optimized for

- iPhone OS v4.3.5, v5.1.1
- Android 2.3.x, 3.2, 4.0.1 (Galaxy S2 is recommended)



- For more information, refer to the user manual.  
(<http://www.samsungcctv.com>)





# backup viewer

## SEC BACKUP VIEWER

You can play a file that is backed up in the format of SEC.

Backup in SEC format produces backup data file, library file and self-executable viewer file.

If you run the backup file viewer, the backup data file will be automatically played.
















### Recommended System Requirements

PCs with a lower specification than the recommended below may not fully support forward/backward and high-speed playback.

- OS : Windows XP professional, Windows Vista, Windows 7
- CPU : Intel i5 2.8GHz or faster
- RAM : DDR PC-3200 1G or more
- VGA : Geforce 6200 or higher

# backup viewer

Part Names		Functions	
1	Split Screen		Set the screen's aspect ratio to be displayed.
			The screen switches to the selected split screen mode.
2	Screen Printout		Saves the current video's image as in an image file. Supports JPEG file format.
			Prints out the current screen. You should have installed the appropriate printer driver before you can print out the screen.
3	Audio		A toggle button. Each time you press this button, the audio output will toggle between activated and deactivated.
			You can adjust the volume level from 0 to 100.
4	Watermark		Press the button to enable file tampering detection, to detect data file forging.
5	Deinterlace		You can enable the De-interlace function.
6	Show OSD		Check the OSD checkbox to display the OSD information on the backup playback screen. Information such as backup date, day of the week, time, model name, and channel number will be displayed on the screen.
7	Enlarge / Reduce Timeline		Collapses the time range that is displayed on the range bar of the storage time. You can collapse the range bar until the overall range is shortened to 24 hours.
			Enlarges the time range that is displayed on the range bar of the storage time. You can enlarge the range bar until the overall range is extended to 1 minute.
8	Restore Timeline		Restores the timeline to the default.
9	Display of storage time range		Displays the time range of a stored video file. You can move the gridline of the range bar to select a time point to play.
10	Playback Control		You can adjust the video playback of the timeline.



- If it has a high recording rate and is played at high speed playback of 16x or higher speed in the backup viewer, actual playback speed may not reach the set playback speed.

# appendix

## PRODUCT SPECIFICATION (CAMERA)

Item	Details
<b>Electrical</b>	
Input Voltage	DC 12V(by PoE) (일반 PoE와 호환 안됨)
Power Consumption	3W
<b>Video</b>	
Imaging Device	1/4 CMOS
Total Pixels	1280 x 720(720p) 이상
Scanning System	Progressive
Synchronization	Internal
Min. Illumination	0Lux (IR-LED)
S/N Ratio (Y Signal)	39dB
UTP	Built-in UTP TX
	Maximum Transmission Length : 100m (UTP CAT5e, Solid Wire(단선)) 50m (UTP CAT5e, stranded wire(연선))
카메라 연결 시간	일반 3 ~ 6 초 <ul style="list-style-type: none"> <li>케이블의 종류와 상태에 따라 카메라의 영상이 나오는 시간이 더 오래 걸릴 수 있습니다.(10초 이상)</li> </ul>
<b>Lens</b>	
Focus Length	3.1mm
Max.Aperture Ratio	2
Angular Field of View	D: 86° 이상
<b>Operational</b>	
Shutter Mode	Auto(Rolling Shutter)
Gain Control	Auto
White Balance	Auto (1,800K ~ 10,000K)
WDR	N/A
Sharpness	
Contrast	N/A
Brightness	
Flickerless	Auto
Digital Noise Reduction	Auto
Day & Night	Auto
IR Distance	25m

# appendix

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Item	Details
<b>Environmental</b>	
Operating Temperature/ Humidity	-10°C ~ +50°C / 90%
<b>Mechanical</b>	
Weatherproof	IP66
Dimension (W x H x D)	70.76 x 70 x 200 mm(Bracket 포함)
Weight	330g
Design type	Box Camera

## PRODUCT SPECIFICATION

Item	Details		
	SDH-P5080, SDH-V5100, SDH-V5120	SDH-P4080, SDH-P4040	
Operation System	Embedded LINUX		
Input Video Format	HD: 1080P/720P, SD: 4CIF		
Operation Mode	Live/REC/PB/NW		
Video In	Channel	16CH(4CH HD, 12CH SD)	8CH(4CH HD, 4CH SD)
	Connector Type	UTP(HD) x 4CH, BNC(SD) x 12CH	UTP(HD) x 4CH, BNC(SD) x 4CH
	Loop Through	X	
Video Out	Composite	X	
	S-Video	X	
	VGA	MAX 1080P(60Hz)	MAX 1080P(60Hz)
	HDMI	MAX 1080P(60Hz)	MAX 1080P(60Hz)
	Simultaneous Out	VGA and HDMI	
Audio In	Channel	4	
	Connector Type	RCA	
Audio Out	Channel	1	
	Connector Type	RCA	
Compression	Video	H.264	
	Audio	G.711	
	Codec Type	H/W	
	Dual Codec	0	
Live	Resolution	1080P/720P/960H	
	Split Mode	1/4/8/9/13/16/PIP	1/4/8/9/13/PIP

# appendix

Item		Details	
		SDH-P5080, SDH-V5100, SDH-V5120	SDH-P4080, SDH-P4040
Recording	Resolution & Frame Rate	HD : 1080p(MAX 120fps), 720p(MAX 120fps) SD : 960H (MAX 360fps)	HD : 1080p(MAX 120fps), 720p(MAX 120fps) SD : 960H (MAX 120fps)
	Quality Level	8Level(LV1 ~LV8)	
	REC Mode	1. Normal REC 2. Schedule REC 3. Event REC - Motion/Alarm/Video Loss 4. Pre REC - Off/5sec 5. Post REC - 5/10/20/30sec - 1/2/3/5/60min 6. Time Laps REC - 1,2,3,..., 29,30 fps	
	Function	1. Channel 별 설정 분리 - Resolution - Frame Rate	
Playback	Resolution & Frame Rate	MAX 1080P: 30fps, 720P: MAX 60fps, SD: MAX 360fps	MAX 1080P: 30fps, 720P: MAX 60fps, SD: MAX 120fps
	Search Mode	1. Time Search - Date/Time - Go to First/Go to Last - Calendar - Time Bar 2. Event Search - Motion/Alarm/Video Loss 3. Backup Search - USB Memory - USB External HDD	
	Tric Mode	1. Play/Pause/Stop 2. Fast Forward/Backward - x2/x4/x8/x16/x32/x64 3. Slow Forward/Backward - x1/2, x1/4, x1/8 4. Step Play - Forward : I+P frame - Backward : I frame	
Storage	Internal	1. Max Capacity : 2TB 2. Install HDD : 1EA 3. Packing : 1TB: SDH-P5080 2TB: SDH-V5100, SDH-V5120, SDH-P4040, SDH-P4080	
	External	1. USB 2.0 I/F 2. E-SATA 3. Max Capacity : 2TB	1. USB 2.0 I/F 2. E-SATA 3. Max Capacity : 2TB

Item		Details	
		SDH-P5080, SDH-V5100, SDH-V5120	SDH-P4080, SDH-P4040
Backup	USB	1. USB 2.0 2. Memory : Max 32G 3. External HDD : Max 1TB	
	Format	1. SEC 2. DVR	
Remote Viewer	Network	10/100 Mbps Ethernet	10/100 Mbps Ethernet
	Transmit Speed	4CIF/640*360 120fps (Web), CIF/320*180 480fps (Web) 4CIF/640*360 16fps (Mobile), CIF/320*180 16fps (Mobile)	
	Connection No	10 (Admin 1 + User 9)	
	Connection Mode	1. Static IP 2. Dynamic IP 3. ADSL	
	Protocol	TCP/IP, DHCP, PPPoE, SMTP, NTP, HTTP, DDNS, RTP, RTSP, UPnP	
	Webviewer	IE, Safari, Chrome, Firefox	
	Mobile	iPOLiS Mobile	
	Function	1. Quality 2. Bandwidth - Unlimited/2/1.5/1M - 800/600/500/400/300Kbps - 128Kbps 3. TCP/UDP Port 4. Unicast/Multicast 5. Webviewer Port 6. DDNS - Samsung iPOLiS DDNS - dyndns.com - no-ip.com - changeip.com 7. Mailing Service	
PTZ Control	I/F	RS-485 Half Duplex	
	Protocol	SAMSUNG-T, VICON, PANASONIC,AD, PHILIPS, PELLCO D, PELLCO P, SAMSUNG-E, GE	
Intelligent Video	Tampering	지원	
Control	Jog & Shuttle	X	
	Mouse	USB I/F	
	Remocon	Samsung Remocon	
Camera 제어		I2C	

# appendix

Item		Details	
		SDH-P5080, SDH-V5100, SDH-V5120	SDH-P4080, SDH-P4040
In/Out	USB	2	
	RS-485	0	
	RS-232C	X	
	E-SATA	0	
	Alarm In	X	
	Alarm Out	X	
Language	OSG	Korean, Japanese, Chinese (Simplified), English, French, German, Spanish (유럽), Italian, Russian, Polish, Czech, Turkish, Netherlands, Portuguese (미주향), Swedish, Danish, Thailandais, Rumania, Serbia, Croatia, Hungary, Greek, Chinese (Traditional), Finnish, Norwegian (25 Language)	
The Other Function		1. Tool Bar 2. Pop Menu 3. S/W Upgrade - USB 4. Live & Network Monitoring without HDD	
Electrical	Power Type	Adaptor(12V DC)	
	Power	MAX 40W(DVR + HD CAM 4EA)	
	Input Voltage	100 ~ 240VAC	
	Operation Condition	Temperature 0~40, Humidity 20~85%RH	
Mechanical	Dimensions (WxHxD)	TBD	
	Net Weight	TBD	
	Packing List	1. LAN Cable 2. Power Cord 3. Remocon 4. Mouse(Included Camera) 5. Quick Guide 6. CD(User Manual, Quick Guide, Router Guide) 7. Cushion 8. PE Back	



# PRODUCT OVERVIEW

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- SDH-P4080/SDH-P4040

unit : mm (inches)

# appendix

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- SDH-P5080/SDH-V5100/SDH-V5120

unit : mm (inches)

## DEFAULT SETTING

This returns the factory default settings.

The settings are made as follows;

- Use System/Load Factory Default in MENU
- The default settings are based on **SDH-P5080**.
- The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product. Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

Category	Details		Factory Default		
System Settings	Date/Time/Language	Date/Time/Language	Date	YYYY-MM-DD	
			Time Format	24 hours	
			Time Zone	GMT	
			Time Synchronize	OFF	
			DST	OFF	
			Language	English	
	Permission Management	Admin	ID	admin	
			New Password	4321	
		User	Group	All Group	
			Setting	Restricted Access	Search/Backup
		System Management	System Information	Auto Logout	OFF
				Manual Input of ID	OFF
	Device	Camera	Camera	Broadcast Format	NTSC/PAL
Video				ON	
Audio				OFF	
CH Name				CAM 01 ~ CAM 16	
PTZ			SEQ-Dwell Time	5sec	
			ID	Camera No.	
			Protocol	None	
			Screen Setup	Brightness	50
Storage Device		HDD Alarm	Contrast	50	
			Color	50	
			Check Alarm Output Port	OFF	
			Duration	OFF	
			Replace Alarm Output Port	OFF	
		Duration	OFF		

# appendix


Category	Details			Factory Default	
Device	Remote Device	Baudrate		9600	
		Parity		None	
		Data		8	
		Stop bit		1	
		Remote Control		ON(00)	
	Monitor	Monitor	Event Display		OFF
			Display		All
			Multi CH SEQ Time		5 sec
			VGA/HDMI		1280X1024
		Mode	Live Screen		ALL
		Play Screen		ALL	
Recording	Recording Schedule	CH1~CH16		Both(Cont&Evt)	
	Event Record Duration	PRE Event		OFF	
		POST Event		1 min	
	REC Quality/Resolution	Normal Recording	Resolution		CIF
			Frame Rate		7fps
			Record Quality		Level 4
		Event	Resolution		4CIF
			Frame Rate		7fps
			Record Quality		Level 4
	Record Option	Disk End Mode	Setup		Overwrite
Disk End Beep				OFF	
	Auto Delete			OFF	
Event	Motion Detection	Mode		OFF	
		Sensitivity		Level10(high)	
		Alarm		None	
		Duration		10 sec	
		Motion Region		All Area	
	Video Loss Detection	Video Loss State			OFF
		Alarm			None
		Duration			10 sec
	Tampering Detection	Mode			OFF
		Sensitivity			Medium
		Alarm			None
		Duration			10 sec
	Alarm Schedule	BEEP			Event Sync

Category	Details		Factory Default	
Network	Connection Mode	Interface	IP Type	Static
			Transfer Bandwidth	2Mbps
			IP Address	192.168.1.200
			Gateway	192.168.1.1
			Subnet Mask	255.255.255.0
			DNS	168.126.63.1
		Port	Protocol Type	TCP
			Device Port	4520~4524
			HTTP Port	80
	DDNS	DDNS Site	OFF	
	Live Transfer	Resolution	CIF	
		Quality	Low	
	Mailing Service	SMTP	Server	OFF
			Port	25
			Use Authentication	OFF
			Secure Transfer	Never
Event		Event Interval	10 min	
		Use Event Transfer	OFF	
Group		Group	OFF	
	Recipient Permission	OFF		

# appendix

## TROUBLESHOOTING

Symptom	Countermeasures
The system does not turn on and the indicator on the front panel does not work at all.	<ul style="list-style-type: none"> <li>• Check if the power supply system is properly connected.</li> <li>• Check the system for the input voltage from the power source.</li> <li>• If the problem persists even after you have taken the above actions, check the power supplier and replace it with a new one if necessary.</li> </ul>
Some channels display just a black screen even if they receive video sources.	<ul style="list-style-type: none"> <li>• Check if the camera connected to the system properly displays the image. Sometimes, this problem may occur on a camera that is not properly connected to the video source.</li> <li>• Check if the camera is properly supplied with power.</li> <li>• Sometimes, this problem may occur on a channel with weak video signal from a video distributor that is connected to multiple systems. In this case, input the video source of the camera directly into the DVR. This may find the cause and solve the problem.</li> </ul>
If I press the <b>[REC]</b> button, the REC indicator does not flash, nor the player start recording.	<ul style="list-style-type: none"> <li>• Check if there is a free space on the HDD for the recording.</li> <li>• Check if the record mode is set to <b>ON</b> in the record mode setting.</li> </ul>
The screen displays the logo image repeatedly.	<ul style="list-style-type: none"> <li>• This may occur from a problem with the main board, or the related software is corrupt. Contact the nearest service center for more information.</li> </ul>
The Channel button does not work on the Live screen.	<ul style="list-style-type: none"> <li>• The Channel button does not work if the current screen is in the event monitoring mode. In the event monitoring screen, press the <b>[ALARM]</b> button to exit the screen and select a channel.</li> </ul>
The cursor will not move to the Start button when I start the calendar search.	<ul style="list-style-type: none"> <li>• Check if the channel and the date that you want to play are marked with the V symbol. Both channel and date should be checked before you can start playing with the Start button.</li> </ul>
When the alarm sounds, I press the <b>[ALARM]</b> button to release the alarm but it does not work. The alarm persists and I could not set it off in any way.	<ul style="list-style-type: none"> <li>• Press the <b>[MENU]</b> button to release the alarm in the following way: <ol style="list-style-type: none"> <li>1) To release the event monitoring mode : Monitoring Mode – set the duration of the event monitoring to Off.</li> <li>2) To release the alarm sound : Event Record Mode - Alarm (Motion Detection/Video Loss/Tampering Detection) – deactivate the alarm sound.</li> <li>3) To release the event : Event Record Mode - Alarm (Motion Detection/Video Loss/Tampering Detection) – set the mode to Off.</li> </ol> </li> </ul>
No response is made even if I press the <b>[PTZ]</b> button on the Live screen.	<ul style="list-style-type: none"> <li>• Menu → Camera → Check if the current protocols and other settings in the PTZ device are properly configured according to the PTZ camera.</li> </ul>
I've found that the DVR does not recognize as many disks as installed when I have connected multiple external HDDs to the DVR.	<ul style="list-style-type: none"> <li>• It takes time for the DVR to recognize multiple external HDDs. Try again in a moment and if the problem (of failure to recognize as many HDDs as connected) persists, it may occur due to a mechanical error of the HDD installed. Try again with a different HDD.</li> </ul>

Symptom	Countermeasures
A message of "Need to reset date/time." is displayed on the screen.	<ul style="list-style-type: none"> <li>• This message is displayed if there occurs a problem with the time setting of the internal clock or an error in the clock itself. Contact the retailer or the service center for more information.</li> </ul>
The time bar is not displayed in Search mode.	<ul style="list-style-type: none"> <li>• The timeline can switch between normal and extension mode. In extension mode, the time bar may not be displayed in the current timeline. Switch to normal mode or use the left or right button to navigate through the time bar.</li> </ul>
The "NO HDD" icon and an error message are displayed.	<ul style="list-style-type: none"> <li>• Check the HDD for connection. If the problem persists in a normal condition, contact the nearest service center to have the HDD checked by the service personnel.</li> </ul>
I have installed an additional HDD on the DVR but it does not recognize the HDD.	<ul style="list-style-type: none"> <li>• See the compatibility list to check if the additional HDD is supported by the DVR. For the compatibility list, contact the retailer where you purchased the DVR.</li> </ul>
I have connected an external storage device (external SATA HDD) to the DVR but the DVR seems not to recognize it.	<ul style="list-style-type: none"> <li>• See the compatibility list of external storage devices to check if the connected device is supported by the DVR. For the compatibility list, contact the retailer where you purchased the DVR.</li> </ul>
If I press the ESC key in full screen mode of the WebViewer, the system does not switch to a normal split mode.	<ul style="list-style-type: none"> <li>• Press the ALT+TAB keys to select 'ACTIVE MOVIE' and press the ESC key again. The system will switch to a normal split mode.</li> </ul>
I found it difficult to configure the network settings if using the default search, backup and router settings.	<ul style="list-style-type: none"> <li>• For more information, refer to the user manual.</li> <li>• If you want to check the basics of the product for a quick start, refer to the quick start guide (backup, search).</li> <li>• If you use the router for network connection, refer to the "<b>Connecting to the Internet using the router</b>" section in this manual.</li> </ul>
I forgot the password.	<ul style="list-style-type: none"> <li>• Contact the DVR administrator for help.</li> </ul>
Backup data is just not played by the PC or DVR.	<ul style="list-style-type: none"> <li>• When you are backing up data, you have choices about the player either: PC or DVR. Make your selection before proceeding.</li> <li>• If you are using the PC to play the data, the format of the backup file should be either SEC.</li> <li>• If you are using the DVR for this purpose, formatting backup files should be done by the DVR.</li> </ul>
My player does not switch to Live mode while in playback.	<ul style="list-style-type: none"> <li>• Press the Stop [■] button on the remote control, or click the [  ] icon on the launcher to switch to Live mode.</li> </ul>

# appendix

Symptom	Countermeasures
Recording does not work.	<ul style="list-style-type: none"> <li>• If your player does not display a Live image at all, that indicates recording does not work so first check if you see an image on the screen.</li> <li>• Recording does not work if the recording settings are not properly configured.               <ol style="list-style-type: none"> <li>1) Manual Record: <a href="#">Press the [REC] button on the remote control to start recording.</a></li> <li>2) Scheduled Record: Specify a desired time in Menu – Record - Recording Schedule. Recording will start at the specified time.                   <ul style="list-style-type: none"> <li>- &lt;<b>Continuous</b>&gt; Record: Recording will proceed in any conditions at the specified time.</li> <li>- &lt;<b>Event</b>&gt; Record: When an event occurs, recording will perform only if the event is of alarm, motion detection, video loss and Tampering Detection. If there is no event found, recording will not perform.</li> <li>- &lt;<b>Continuous / Event</b>&gt; Record: If there is no event found, Continuous recording will perform. Whereas, if an event occurs, Event recording will perform.</li> </ul> </li> </ol> </li> </ul>
The image quality of the recording data is not good.	<ul style="list-style-type: none"> <li>• Increase the resolution and quality level in Menu – Record – Quality / Resolution.               <ol style="list-style-type: none"> <li>1) Resolution: Select a bigger size when specifying the recording size. (WD1&gt;4CIF&gt;2CIF&gt;CIF) The recording image in the CIF format shows a deteriorated quality as it is enlarged from a small-sized image.</li> <li>2) Record Quality: Specify a bigger level for the recording quality.</li> </ol> </li> <li>• If you increase the resolution and the recording quality, the data size increases accordingly. So the HDD will be filled faster. Overwriting will overwrite the existing data so recording will proceed at a shorter interval.</li> </ul>



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If such an object file uses only numerical parameters, data structure

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